Fairfax County - Commonwealth of Virginia

Public Safety and Transportation Operations Center

Concept of Cooperation

Winter 2005

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Fairfax County and the Commonwealth of Virginia
Public Safety and Transportation Operations Center (PSTOC)
Concept of Cooperation (ConCoop)

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Fairfax County and the Commonwealth of Virginia
Public Safety and Transportation Operations Center (PSTOC)
Concept of Cooperation (ConCoop)

1. Executive Summary

a. Overview – what this document provides

The Public Safety and Transportation Operations Center's (PSTOC's) Concept of Cooperation (ConCoop) enables partner agencies to lay out and reach consensus on:

- their intentions in co-locating;
- joint functions and systems needed to meet their objectives;
- how they together will take best advantage of co-location, both in technical operations and in general management (e.g., create new business practices or modify existing ones);
- agreements (formal and informal) needed among partner agencies; and
- topics needing close attention in the transition to actual operation.

A critical feature of the ConCoop is its focus on the overlap of operational interests of two or more partner agencies, rather than day-to-day task details for any one agency. As a result, the ConCoop indicates the degrees of "integration" and "formality" desired in managing overlapping interests. This version of the PSTOC Concept of Cooperation summarizes accomplishments and agreements, together with top issues raised since formal joint discussions started in spring, 2004. It also provides a basis for ongoing assessment of discrepancies between objectives and actual status.

Agencies to reside in the PSTOC include the ***Department of Public Safety Communications*** **(DPSC) and the** ***Office of Emergency Management*** **(OEM)** from Fairfax County, the northern Virginia ***Smart Traffic Center*** **(STC)** from Virginia DOT, and the **dispatchers from** ***Virginia State Police's District 7*** **office** in northern Virginia. The targeted opening date of the new facility is November 2007.

b. Key features and uses

This Concept of Cooperation has four primary elements:

- **Why:** The purpose of the PSTOC
- **What:** The business functions and systems necessary to carry out the purpose
- **How:** The procedures, practices, and policies that govern the functions
- **Who:** The people who need to cooperate to make it all happen

Because of its stage of development, the ConCoop now reflects more detailed thinking on the first three elements than on the fourth. As personnel issues become more visible and urgent, the fourth element can be fleshed out at a similar level of detail.

WHY: The PSTOC's **mission, goals and objectives** communicate the motivation and intent of co-locating four agencies from two different jurisdictions (Fairfax County and the Commonwealth of Virginia). The ***mission*** and ***goals*** create a reference for questions about why this cooperative enterprise is needed and what partner agencies will focus on to fulfill the enterprise's mission. The ***objectives*** provide depth and direction to each goal.

PSTOC MISSION: to increase public safety, better manage traffic congestion, enhance public information regarding transportation and public safety events and conditions, and better manage the response to major emergencies.

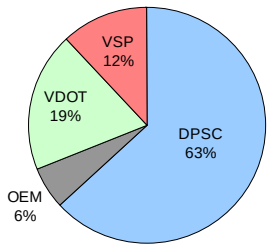
GOALS:

1: More effective internal public safety and transportation service operations
2: More complete and efficient use of resources
3: Recognized & respected essential elements of organizational integrity & accountability
4: Improved working relationships among local and regional jurisdictions

WHAT: A key purpose of the PSTOC is to enhance currently separate **business functions** into a single operating building, primarily: (1) public safety operations, (2) transportation operations, (3) emergency management, and (4) Center administration and management. Agency managers will look for ways to create more operating efficiencies from merging specific aspects of these seemingly disparate business functions. **Business systems** are technologies that are used by partners primarily to conduct their agency business functions directly.

HOW: Partner agencies created a number of **standard operating procedures (SOPs), recommendations, policies, and protocols** describing how to conduct business in the PSTOC, including how business systems should be used. Descriptions of how the agencies will work together - their "rules of engagement" - fall into two clusters, **operations floor** and **management**.

WHO: The Concept of Cooperation becomes real only to the extent that specific **people in each of the partner agencies** explicitly take responsibility for further defining and implementing the details of the partner agencies' agreements. Based on a initial distribution of PSTOC staff, public safety activities will use almost three-quarters of the total number of personnel housed at the PSTOC (up to 289 total staff), as indicated in the adjacent figure.



c. Next steps

The ConCoop presents five scenarios of typical situations likely to arise during PSTOC operations:

1 – *Accident with injury* (standard accident)
2 – *Transportation HazMat emergency* (e.g., black powder event)
3 – *Transportation non-emergency*
4 – *Day-to-day management*
5 – *PSTOC Governance*

Each scenario highlights "*Key Features*" – the differences between how each agency currently operates and how the agencies are expected to operate once they move into the PSTOC, as well as "*Potential Features*" – outstanding opportunities for improving joint operations by addressing open issues. With the time to opening shrinking rapidly, a number of operations-related issues are now on the "critical path." Open issues include:

1. OPERATIONS FLOOR

a. Shared or Integrated CAD System
b. CCTV Access and Management
c. On-Scene Management
d. Operations Floor and Personnel

2. MANAGEMENT COORDINATION

a. Best Practices
b. Governance, Decision Making and Conflict Resolution
c. Shared Positions

3. CROSS-CUTTING

a. Goals and Objectives
b. Training
c. Transition of Systems and Operations
d. Linking Operations and Planning
e. Scope of Use and ConCoop Management

The PSTOC's Concept of Cooperation is intended as a record of the progress partner agencies have made in preparing for actual day-to-day operations together. In that light, subsequent versions can be expected to have a longer list of agreements, and a shorter, or at least different, list of open issues.

2. Background

This section lays out the purposes and components of the Concept of Cooperation (ConCoop), provides a brief discussion of scope, and outlines lessons learned from other similar joint operations.

a. Purposes

Because the Public Safety and Transportation Operations Center (PSTOC) has no predecessor and represents the mutual operational interests of Fairfax County and the Commonwealth of Virginia, the ConCoop is a device for partner agencies to articulate and agree on:

- what they intend to accomplish by co-locating;
- joint functions and systems needed to meet their objectives;
- what they will do together (new or modified business practices) to take best advantage of co-location, both in technical operations and in general management;
- agreements (formal and informal) needed among partner agencies; and
- topics needing close attention in the transition phase.

Laying out elements critical to joint operations provides a foundation for a detailed specification of joint business processes and for an efficient technical and organizational transition from dispersed to co-located functioning. The ConCoop is also a framework of joint interests and boundaries within which partner agencies can negotiate detailed operating rules, procedures, and business practices before moving into the new facility. The ConCoop increases the probability of success and tangible benefits by reducing the risk of failure, improving the quality of work, accelerating the time to peak joint performance, and leveraging scarce resources.

As an evolving record of operations-related activities and decisions, the Concept of Cooperation summarizes accomplishments and agreements, as well as major issues raised since formal joint discussions started in spring, 2004. It also provides a basis for ongoing assessment of discrepancies between objectives and the actual situation. At a high level, this document also helps communicate the intent and status of PSTOC operations work to stakeholders, both internal and external, and to those in partner agencies who will work in the PSTOC day-to-day, especially those who did not yet contribute to the components of this document.

b. Components

This Concept of Cooperation has four primary elements:

(1) **Why:** the purpose of the PSTOC
(2) **What:** the business functions and systems necessary to carry out the purpose
(3) **How:** the procedures, practices, and policies that govern the functions
(4) **Who:** the people who need to cooperate to make this all happen.

After reading this Concept of Cooperation, the reader will know where, when, how, and through whom partner agencies will conduct business together in the PSTOC. A critical feature of the ConCoop is its focus on the overlap of operational interests of two or more partner agencies, rather than the individual day-to-day task details for each of the agencies. As a result, the ConCoop indicates the degrees of "integration" and "formality" desired in managing overlapping interests.

c. Scope

Agencies to reside in the PSTOC include the **Department of Public Safety Communications (DPSC) and the Office of Emergency Management (OEM)** from Fairfax County, the northern Virginia **Smart Traffic Center (STC)** from Virginia DOT, and the **dispatchers from Virginia State Police's District 7 office** in northern Virginia. Together, these agencies will perform four core functions in the PSTOC: (1) public safety operations, (2) transportation operations, (3) emergency management, and (4) Center administration and management. [Section 3, provides details on the organizations involved, list of functions in the Center, its management structure, and associated processes.]

Unlike a traditional systems engineering "Concept of Operation," the ConCoop does not focus on the identification, design, implementation, and operation of technical solutions. As a record of progress in partner agencies' negotiations, it indicates which issues have been settled and which are still open. Just as in the world of physical design and construction, as the ConCoop evolves, fewer and fewer strategic operational issues remain open, and more and more attention is focused on getting agreement on and implementing details. This current version is a snapshot of relevant operations-targeted activities and outcomes up to the fall of 2005. ***It is advisable that the ConCoop be updated regularly to provide a current record of additional agreements and outstanding issues.***

Since starting work together in spring, 2004, partner agencies – first through the Operations Subcommittee of the Camp 30 Master Planning Leadership Team and then the PSTOC Operations Coordinating Committee – have put together most of the building blocks of the ConCoop included in this document. [Agencies participating are listed in Appendix E.] Since starting, these operations teams cross-referenced their work with the architecture and engineering (A&E) team and the information technology (IT) team. These three teams now form the core

subject matter experts that the Master Planning Leadership Team has charged with identifying and addressing the details necessary for successful transition to a fully implemented PSTOC. While the ConCoop broadly describes IT systems as they relate to the center's operations, the physical design of the center has been determined and is unalterable. Decisions about operations must therefore be made with this pre-defined space as given. Since the facility is expected to open in November 2007, partner agencies are planning accordingly for procurements and installation of technology and equipment, in order to meet that deadline.]

d. Lessons Learned Elsewhere

Partner agencies looked outwardly at best practices among peers in similar co-located facilities, and reflected on their own experiences on how best to prepare for operating the PSTOC. Peer opportunities included:

- July 2004 (see Appendix B, page B-1): site visit to operations centers Austin (http://www.ci.austin.tx.us/ctecc/index.cfm) and Houston, Texas (http://www.houstontranstar.org/);
- September 2004 (see Appendix B, page B-27): west coast site visit to three E-9-1-1 Dispatch and Emergency Operations Centers (Sacramento, California http://www.oes.ca.gov/Operational/OESHome.nsf/PDF/FactSheetNew/$file/FactSht6_02.pdf; King County, Washington http://www.metrokc.gov/prepare , http://www.mortenson.com/projects/project_profile.html?projects__id=157 ; and Vancouver, British Columbia http://www.ecomm.bc.ca/); and
- June 2005 (see Appendix B, page B-48): discussion with representatives from the I-95 Corridor Coalition (http://www.i95coalition.org) and the USDOT's Joint Program Office for ITS (http://www.its.dot.gov/index.htm) on issues of operations floor integration and maximizing public safety effectiveness.

These national scans of similar activities, including the study tours, provided lessons learned that were applied to (1) development of the PSTOC's operational foundation, (2) management of the PSTOC as a whole, and (3) management of specifics of the Center's daily operations. Many of these lessons have been helpful in both initial, high-level discussions of joint operational interests, and in later conversations about the details of operations after co-location in late 2007. Partner agencies are still reviewing a number of these lessons for further application as the move-in date draws closer. The most important recommendations from external peers are:

Operational Foundation of the Center

1. Create a mission statement for the PSTOC and build support around that declaration.
2. Create high-level inter-local agreements for center coordination and cooperation, including funding responsibilities.
3. Depend on detailed SOPs to work out management, operations, and maintenance specifics.
4. Build inter-agency SOPs on processes already underway.
5. Consider any potentially problematic subject matter, regardless of how small it is, for an SOP.
6. Keep in mind that a large operations center was able to realize economies of scale in its development and operations by pooling staffs, systems, and financial resources.
7. Develop a peer-to-peer exchange network with and in-depth site visits to other joint operations centers. Previous study tours have accelerated the creation of a more cohesive PSTOC team.

Management of the Center as a Whole

1. Address organizational and business issues far ahead of opening to provide timely opportunities for adjustments before center startup.
2. Create a tiered management structure early in the PSTOC development process that has a general manager, governing board, and multiple layers of agency management, which will enable timely decisions (e.g., of procurements) and extensive input into the PSTOC development.
3. Select a personable, credible, knowledgeable and organized Center manager. This person will be invaluable in starting up an operations center.
4. Determine and plan for an adequate number of staff to provide the Center's support functions.
5. Seriously consider having a general manager and support function staff including a dedicated accountant and a public information officer (PIO).
6. Prepare for a large number of visitors to the Center, especially during the first few years of operation.
7. Plan for accommodations for people at the Center that are external to the partner agencies, including media and outside agencies coming to the Emergency Operations Center (EOC).
8. Create security zones to allow visitors in less sensitive areas of the PSTOC, but restrict them from more sensitive areas.
9. Address staff issues in a fair and equitable manner by developing a grievance process.

Management of Daily Center Operations

1. Involve operations floor staff early in the planning process and discuss opportunities to maximize the benefits of co-location.
2. Define business terms such as 'emergency' to help partner agencies build common ground and move ahead together.
3. Ensure compatibility of systems and communication devices so that information can be shared quickly and efficiently.
4. Agree among partners on the level and type of data and information sharing. This is critical to determining how much system interconnectivity and inter-operability is needed.
5. Resolve operations floor integration issues early enough to reflect in systems procurements.
6. Make the video wall the first priority consideration for the operations floor.
7. Spend the time needed to take into account residents' interests in rooms ancillary to the operations floor – bathroom, kitchen, locker rooms - in that they can make a significant impact on residents' morale and therefore quality of carrying out operational duties in the center.
8. Consider a large training and multi-purpose room for the operations center. This room should be a common resource and requires active management.
9. Design an open rather than theatre-style operations floor.
10. Incorporate ergonomics into the design of the operations center and include it in design of smaller elements such as furniture and fixtures.

3. Results to Date

As an evolving document, the Concept of Cooperation communicates the progress partner agencies have made in designing how they will operate the PSTOC together. In the fall of 2004, the agencies agreed on a initial, high-level version of the Concept of Cooperation by laying out a statement of mission, goals and objectives (Appendix A, page A-1); diagramming workflows of common tasks (Appendix A, page A-48); and identifying highest priority operational interests to pursue jointly (Appendix A, page A-26). This current version of the PSTOC Concept of Cooperation incorporates those initial results into a detailed outline of common interests. In generating operational scenarios in Section 4 and opportunities for further development in Section 5, this document also provides a foundation for going to the next level of specificity in future versions. Section 6 lists "critical path" action items.

Described in this section are four core components of the Concept of Cooperation:

- **Why** have a PSTOC?
- **What** business functions and systems will partner agencies share?
- **How** will partner agencies carry out their shared functions?
- **Who** will make it all happen?

Because of its stage of development, the ConCoop reflects more detailed thinking on the first three elements than on the fourth. As personnel issues become more visible and urgent, the fourth element should be fleshed out at a similar level of detail.

a. WHY: Strategic Context

During the initial discussions of operations issues, senior staff of partner agencies outlined six primary factors that led to implementing the PSTOC:

- Public safety and traffic operations services can be provided in a more cooperative, integrated, and efficient manner through co-location.
- There is a significant need for improving public perceptions and the relationship between service providers and the public they serve.
- There is insufficient office and operations space for some elements of the public safety and traffic operations agencies and services.
- The dynamics of land use and congestion in the region create challenges and opportunities for transportation-related services.
- There are opportunities to create new and productive relationships among levels of government, jurisdictions, and public safety and traffic operations services.
- The northern Virginia region has a substantial interest in, responsibility for, and impact on public safety and traffic operations services in the Commonwealth, the District of Columbia, and Maryland.

Throughout the development of the ConCoop, partner agencies have been aware that they are accountable to their elected officials (and to the public to which they are accountable) for containing costs and improving performance in delivering services in the public safety and transportation operations arenas. Accordingly, this is reflected in the strategic goals outlined below.

Mission-Goals-Objectives

The document outlining the PSTOC's mission, goals and objectives was one of the primary products of the Operations Subcommittee of the Camp 30 Master Planning Leadership Team. It communicates the motivation and intent of co-locating four agencies from two different jurisdictions (Fairfax County and the Commonwealth of Virginia). The Operations Subcommittee concurred with this document at its final meeting on September 30, 2004. Its successor, the Operations Coordinating Committee (OCC, including the Fairfax County Deputy Executive, chair of the Master Planning Leadership Team) also reviewed the document on August 3, 2005, making slight modifications, but otherwise also concurring with it.

The PSTOC ***mission*** statement and four ***goals*** presented below create a reference for questions about why this cooperative enterprise is needed and what partner agencies will focus on to fulfill the enterprise's mission. The ***objectives*** provide depth and direction to each of the four goals. Eventually, ***performance measures*** (metrics) will be developed to track progress for each objective, which will also be used to evaluate the benefits of investing in the PSTOC facilities and staff. The complete Mission-Goals-Objectives document is in Appendix A, page A-1.

The "issues" captured in Section E of the complete Mission, Goals, and Objectives document (in Appendix A, page A-1) can be especially useful as a checklist for future versions of the Concept of Cooperation to indicate progress in addressing the concerns that partner agencies have raised. Categories of issues include Defining the Role of the PSTOC; Costs and Risk; Coordination of Operations; as well as Command and Control.

PSTOC MISSION:

To increase public safety, better manage traffic congestion, enhance public information regarding transportation and public safety events and conditions, and better manage the response to major emergencies.

GOALS AND OBJECTIVES FOR THE PSTOC:

GOAL 1: More effective internal public safety and transportation service operations

a. Enhanced interoperability of communications across agencies.
b. Unified incident management and congestion mitigation control.

c. Establishment of automated inter-agency data and information exchange.
d. Integration of IT systems across jurisdictions, agencies and levels.
e. Increased access to multiple sources of incident, event, and major emergency information among co-located services.
f. Exchange of knowledge and effective business practices among services.
g. Increased rate of innovation in techniques and procedures.
h. Facilities that are central and spacious enough to enable effective management of response to any major emergency, natural or otherwise, and effective planning and management of special events.

GOAL 2: More complete and efficient use of resources

a. Financial savings from sharing of facilities.
b. Enhanced sharing of resources—including facilities, equipment, and personnel—among agencies.
c. Enhanced redundancy of facilities and resources.
d. Improved distribution of workload among partner agencies.

GOAL 3: Recognized and respected essential elements of organizational integrity and accountability

a. Increased understanding and recognition by each agency of other agencies' priorities and needs.
b. Retention of appropriate amount of influence by each agency over personnel matters, including recruitment, training, professional development, and compensation.
c. Maintenance of an appropriate span of command/control for each co-located agency, given the goal of more effective internal service operations.
d. Protection of each agency's interests with respect to legal liability.

GOAL 4: Improved working relationships among local and regional jurisdictions

a. Cooperative planning, investment, and operations among local and state transportation and public safety agencies.
b. Coordinated regional strategy and approach in providing vital public safety, emergency management, traffic management, and other services.
c. Establishment of regular joint exercises to solidify relationships among jurisdictions.

b. WHAT: Business Functions and Systems

BUSINESS FUNCTIONS

A key purpose of the PSTOC is to bring together currently separate business functions into a single operating building in order to enhance each of these functions. There are essentially four core functions that are planned to be performed at the PSTOC: (1) public safety operations, (2) transportation operations, (3) emergency management, and (4) Center administration and management. While all of these functions can be performed independently, the value of co- locating then becomes tangible through increased opportunities for cooperation among the Center agencies.

Part of the responsibilities for agencies' managers at the PSTOC will be examining ways to create more operating efficiencies from merging specific aspects of these seemingly disparate business functions. Figure 1 shows a breakout of staff positions for the four PSTOC partner agencies. For example, a large portion of DPSC public safety activities has little to nothing to do with transportation. However, the event to which DPSC is responding does not have to be a transportation accident in order for public safety to benefit from coordination with the transportation functions. DPSC and other public safety dispatchers can use VDOT's and the other agencies' field equipment—such as loop detectors, traffic signals, CCTV cameras, lane signals, and ramp meters—to determine the quickest response route to the scene (e.g., around congestion) and the quickest route from the scene to the desired destination (e.g., nearest hospital). The public safety agencies could request that VDOT STC staff change signals both to accommodate the response vehicles and to clear traffic around the scene in the event of traffic re-routing.

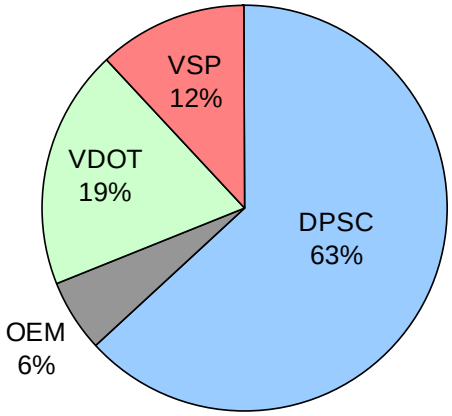


Figure 1: PSTOC Positions by Agency

A key purpose of the PSTOC is to enhance service provision by bringing together currently separate business functions into a single operating building. There are four core functions that will be performed at the PSTOC: (1) public safety operations, (2) transportation operations, (3) emergency management, and (4) Center administration and management. While all of these functions can be

carried out independently, the value of co-locating becomes tangible through increased opportunities for cooperation among agencies at the Center.

Based on the preliminary distribution of PSTOC staff (shown in Figure 1 and Table 1), almost three-quarters of the total number of personnel housed at the PSTOC (up to 289 total staff) will be dedicated to public safety activities. The day/night shift staff split will be an approximate 60%/40% (see Figure 2 – in which we assume that "unknown" will follow the 60%/40% day/night split) Activities for each business function have many spatial and operational implications, including:

- Workspace needed per shift
- Noise levels
- Common area usage patterns
- Parking availability
- Accommodation of visitors (staff and space availability)
- Administrative support levels
- Maintenance support levels, including best time for equipment testing and servicing
- Prime custodial periods (best time for center cleaning)
- Prime periods for maintaining the outside of the building and the grounds

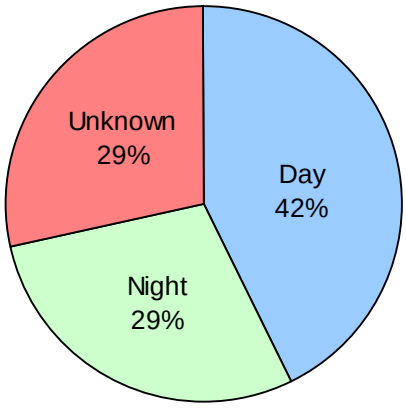


Figure 2: PSTOC Positions by Shift

TABLE 1: PSTOC BUSINESS FUNCTIONS			
BUSINESS FUNCTION	**LEAD AGENCY**	**PRIMARY CONTACT**	**# OF STAFF IN FUNCTION***
1. Public Safety Operations / Management	Fairfax County Dept of Public Safety Communications; Virginia State Patrol	DPSC Director or Deputy Director of Operations; VSP Lieutenant or Sergeant	207 (72%)
a. Notification & identification (Dispatch)	DPSC VSP	DPSC Ops Floor Squad Supervisor; VSP Senior Dispatcher/ Call Taker	
b. Getting field resources in place (Incident Management)	DPSC VSP VDOT	DPSC Ops Floor Squad Supervisor; VSP Senior Dispatcher/ Call Taker	
c. Monitoring of live events (local and highway)	DPSC VSP VDOT	DPSC Ops Floor Squad Supervisor; VSP Senior Dispatcher/ Call Taker	
2. Transportation Operations / Management	Virginia Department of Transportation	VDOT NoVA Division Director of Operations or STC Manager	53 (18%)
a. Monitoring of highways	VDOT STC	VDOT Engineering Technician III	
b. Notification & identification (Dispatch)	VDOT STC	VDOT Engineering Technician III	
c. Response with field logistics	VDOT STC	VDOT Engineering Technician III	
d. Adjustment of Signals	VDOT STC	VDOT Architect/ Engineer I	
e. Response by Safety Service Patrol	VDOT STC	VDOT Transportation Operations Manager II	
3. Emergency Management	Fairfax County Office of Emergency Management	OEM Coordinator	17 (6%)
a. Contact (Info gathering and dissemination)	OEM	OEM Deputy Coordinator (PSTOC PIO)	
b. Coordination of Agencies	OEM	OEM Deputy Coordinator	
c. EOC	OEM	EOC Manager	

TABLE 1: PSTOC BUSINESS FUNCTIONS			
BUSINESS FUNCTION	**LEAD AGENCY**	**PRIMARY CONTACT**	**# OF STAFF IN FUNCTION***
4. PSTOC Administration / Management	PSTOC Administrative Office	PSTOC General Manager	12 (4%)
a. Financial	PSTOC Administration	PSTOC Business Manager	
b. Media	PSTOC Administration	PSTOC PIO / Community Education Coordinator	
c. Technology Maintenance	PSTOC Administration	PSTOC Information Systems Manager	
d. Security	PSTOC Administration	PSTOC Security Manager	
e. Human Resources	PSTOC Administration	PSTOC Human Resources Manager	
f. Parking Management	PSTOC Administration	PSTOC Security Manager	
g. Building Oversight (maintenance, equipment and supplies, common space management)	PSTOC Administration	PSTOC GM or Deputy GM or Executive Assistant	
*Estimates as of July 2005, based on Appendix E, page E-5			

BUSINESS SYSTEMS

Business systems are technologies that are used by partners primarily to conduct their agency business functions directly (as distinct from underlying utilities that enable the business systems to work). The PSTOC partners each use independent systems to perform their agency functions. As part of the IT coordination efforts attached to the development of the PSTOC, a number of new or updated integrated business systems will be deployed to maximize communications among agencies and improve operations. As the partners become more familiar with additional internal and external business systems used by their counterparts, they will probably share additional more system applications. Table 2 lists systems that could be beneficial to the business functions and to the overall performance of the operations center.

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TABLE 2: PSTOC SYSTEMS					
SYSTEM	**LEAD AGENCY**	**SYSTEM MANAGER**	**SYSTEM MAINTE-NANCE**	**STATUS (October 2005)**	**COORDINATION REQUESTS AND ISSUES**
Internal systems					
Phones	PSTOC IT Sub-committee	OPEN ISSUE Recommend that PSTOC stakeholders define apt party	OPEN - Recommend that PSTOC stakeholders define apt party	Draft detailed single phone system recommendations from OCC UGs; Pending joint agreement among Fairfax County, VDOT, and VSP IT User Group examining trunking and other phone system issues	Ability to transfer 911 calls between agencies; **Requested:** single phone system with automatic call distribution (ACD); **Desired:** number (ANI) and location (ALI) capabilities, shared records management, independent trunks for DPSC and VSP, internet (IP) enabled phones
Computer-Aided Dispatch (CAD)	PSTOC IT Sub-committee	OPEN ISSUE Recommend that PSTOC stakeholders define apt party	OPEN - Recommend that PSTOC stakeholders define apt party	CAD system integration pending joint agreement among Fairfax County, VDOT, and VSP; Currently with CAD RMS review committee	VDOT requirements & Fairfax requirements for new CAD system being developed; **Requested:** data push (and pull) capabilities for location and incident type; **Desired:** push (and pull) capabilities for name and call back number, remarks, primary agency; VDOT CSC should be on same CAD system
Geographic Information System (GIS)	PSTOC IT Sub-committee	OPEN ISSUE Recommend that PSTOC stakeholders define apt party	OPEN - Recommend that PSTOC stakeholders define apt party	Pending joint executive agreement (Fairfax County, VDOT, and VSP) to commit to GIS integration; IT User Group responsible implementer	Shared geo-spatial database will facilitate transfer of info in understandable format; **Requested:** locations translated by a program into latitude and longitude; **Desired:** agencies share a database that verifies locations within each user system; GIS needs analysis required; Creation of multi-agency GIS team
Conference Room Reservation system	PSTOC Admin	PSTOC GM	PSTOC Admin	IT to develop reservation system	Concept developed by Facilities User Group (could expand to other shared space and equipment requiring some form of tracking)
Audio / Visual	Ops Floor Management; PSTOC Admin	PSTOC GM	PSTOC Admin	Included in draft Multi-Media Display SOP	General rules on control of images on A/V equipment (restrictions on displays and display sources); most of Multi-Media Display SOP focus on images from CCTV cameras

TABLE 2: PSTOC SYSTEMS (CONTINUED)					
SYSTEM	**LEAD AGENCY**	**SYSTEM MANAGER**	**SYSTEM MAINTE-NANCE**	**STATUS (October 2005)**	**COORDINATION REQUESTS AND ISSUES**
External systems					
CCTV cameras	VDOT	STC Manager	VDOT	Internal PSTOC use included in draft Multi-Media Display SOP	Pan-Tilt-Zoom (PTZ) control of CCTV cameras remains with VDOT STC personnel and at supervisor pod; hierarchy of agencies and situations for accessing cameras
Public Information Dissemination (DMS, HAR, 511)	VDOT	STC Manager	VDOT	No multi-agency use SOP developed (SOP requested by OCC)	Control of DMS messages and HAR output left to lead agency's operating policies
Signal Systems (traffic signals, ramp meters, lane signals)	VDOT	STC Manager	VDOT	No multi-agency use SOP developed	Control of signal systems left to VDOT's operating policies
Roadway Detectors (freeway loop detectors, incident detection stations)	VDOT	STC Manager	VDOT	No multi-agency use SOP developed	Looking at how to gather loop detector info to flag congestion within integrated CAD system for alternate routes selection
Commercial Vehicle Operations System (vehicle classification stations, truck rollover warning station)	VDOT	VDOT Motor Carriers Unit	VDOT	No multi-agency use SOP developed	
Specialized Vehicles (VDOT SSP, VSP helicopters, VSP & FFX County traffic response vehicles)	VDOT, VSP, Fairfax County	Owning agency	Owning agency	No multi-agency use SOP developed	
CapWIN				Led by Maryland Center for Advanced Transportation Technology	Regional integrated transportation and criminal justice information system – Capital Wireless Integrated Network

c. HOW: Procedures, Practices and Policies

The information in this section reflects the jointly-developed standard operating procedures (SOPs), recommendations, policies, and protocols that have been created thus far. These guidelines describe how partner agencies have agreed to conduct business in the PSTOC, including how business systems (outlined in Section 3b) should be used. Descriptions of how the agencies will work together - their "rules of engagement" - fall into two clusters: (1) operations floor and (2) management coordination.

1) Operations Floor

Described below are the procedures for how the PSTOC partner agencies will conduct business and the recommendations for how systems within the PSTOC should be used. Table 3 lists the procedures and recommendations covered in this section and shows which of these guidelines have implications for the range of PSTOC planning activities. [Information on the processes of the "user groups" to develop procedures and recommendations can be found in Appendix D.] Table 4 lists operations issues that were identified in fall 2004, as well as whether they have been addressed or not by the most recently crafted guidelines and SOP's.

Table 3: Planning Implications of SOPs and Recommendations

SOP or Recommendation	Implications				
	IT	A&E	Ops Floor Operations	Admini-stration	Financial
Shared CAD System Recommendation	✓		✓		✓
Integrated GIS Recommendation	✓		✓		✓
Shared Phone System Recommendation	✓		✓		✓
Call Taking and Call Transfers SOP	✓		✓		✓
Video Feed, Wall, and Control Recommendation	✓	✓	✓		✓
Multi-Media Display SOP	✓	✓	✓		✓
PSTOC PIO Recommendation		✓		✓	✓

a) **Shared CAD System Recommendation** (refer to Table 4: 2, 11, 15, and 16, and Appendix D, pages D-55 and D-193)

This recommendation covers two possibilities: (1) the agencies invest in an integrated CAD system that each agency uses, or (2) each agency has its own CAD system, but a common platform is created that allows for the sharing of information across systems. In both scenarios, data fields (populated by

PSTOC call takers and dispatchers during an incident) are pushed or pulled between agencies. These data fields include location, incident type, caller name and number, remarks, and indication of primary agency responsible. Having the ability to "push" data to each agency's screens reduces the likelihood that the agencies will enter redundant information or start a new record for the same incident. This translates into saved time and individual effort, which is one of the goals of the PSTOC (#2). For similar reasons, the VDOT CSC should also use, or be connected to, the CAD system that the agencies on the operations floor use.

Appropriate Fairfax County, VSP, and VDOT officials must agree to sharing incident information, financially invest in the system standards (as outlined above), and determine who is responsible for maintenance and technical support.

b) **Integrated GIS Recommendation** (refer to Table 4: 2, 11, 15, and 16, and Appendix D, pages D-55 and D-193)

Agencies should share a database that verifies locations within each CAD system. Locations would be translated by a program into latitude and longitude and then displayed as the location information each agency requires.

Because each agency logs location information differently (for example, VSP uses route numbers, DPSC uses street names), having a shared geospatial database that verifies/translates locations using latitude and longitude would be very useful in saving time and confusion when call-takers from different agencies receive multiple calls on the same incident. Coupled with an integrated CAD system, one record with the correct location could be built upon by each agency as opposed to multiple records being created by each agency for the same incident. This process would reduce redundant records, reduce time spent by each agency entering duplicative information, and improve on-scene management.

Once identified, the appropriate Fairfax County, VSP, and VDOT officials must agree on and commit financial resources to developing the system and determining who is responsible for maintenance/technical support. Each agency should perform a GIS needs analysis and partner agencies should create a multi-agency GIS team. This team would (1) identify the advantages and disadvantages of maintaining a single GIS database; (2) identify the steps to be taken to integrate GIS systems; (3) develop the system specifications in light of each agency's needs; and (4) procure and implement the GIS system.

c) **Shared Phone System Recommendation** (refer to Table 4: 1, 2, 15, and 16, and Appendix D, pages D-55, D-69, and D-193)

The agencies in the PSTOC should have one shared primary telephone system, capable of being configured for separate administration by each agency. All agencies should also share a separate on-site back-up telephone system capable of being configured for separate administration by each agency. This shared primary telephone system should:

- possess all of the capabilities of Fairfax DPSC's current system, including automatic call distribution;
- have shared call statistic management information systems; include the capability to transfer 911 calls from DPSC to VSP with ANI/ALI[1] using separate 9-1-1 trunk groups;
- be Internet Protocol- (IP-) enabled.
- have an associated voice mail system.

Shared telephone systems (primary and back-up) will result in cost efficiencies for purchase, installation, operations, and maintenance. They will also allow Caller ID for calls transferred among the agencies and will streamline call handling in general. Shared call statistics management information systems will make it easier to manage and compile call data for the PSTOC as a whole, as well as for individual agency analysis. The primary telephone system must be IP-enabled to be compatible with the national 9-1-1 system, which will be IP-enabled in the near future. Also, there must be a voice mail system dedicated to the primary telephone system. This will give PSTOC agencies the ability to give callers the option to drop out of the queue to leave a message. It will also allow for features such as providing expected wait times to callers. VSP should have ANI/ALI capability so that ANI/ALI information automatically passes through when a call is transferred from DPSC to VSP. Otherwise, the number and location information will have to be verbally relayed to VSP call takers.[2]

Once identified, appropriate Fairfax County, VSP, and VDOT officials must agree and commit financial resources to the system and determine who is responsible for maintenance/technical support.

[1] ANI and ALI are the 9-1-1 caller's telephone number and location information. When the call is received, this information is displayed to the call taker on a computer screen. ANI is Automatic Number Identification and ALI is Automatic Location Identification (name, address, town, latitude, longitude, etc).

[2] Note: VSP would only receive transferred 9-1-1 calls, not calls directly from the public. With ANI/ALI capability, VSP could also receive 9-1-1 call transfers from Northern Virginia jurisdictions outside of Fairfax County.

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Table 4: Description and Status of Operations Issue Areas		
OPERATIONS ISSUE	**DESCRIPTION**	**STATUS AS OF JULY 2005**
Traffic Incident and Hazmat Events		
1. Initial Phone Calls	All phone calls regarding same incident come into center on single phone system, reducing redundancy of information	Examination of single phone system
2. Call Transfers	Hand off (direct call or transfer) simplified using a single or interoperable communications system	Examination of single or interoperable phone, CAD, GIS
3. CCTV Camera Usage and Control	VDOT CCTV camera views assist operations floor personnel in assessment of incident and best route to incident	Draft CCTV – multi-media control/ use recommendation and SOP
4. On-Scene Equipment	Responders block multiple lanes with equipment or vehicles only when deemed necessary for safety of scene	Outstanding issue
5. Freeway Detours	Coordinated re-routing of traffic away from the freeways to local roads using VMS and adjusted traffic signals	Outstanding issue
6. Close-out Notification	Notification to dispatch that field event has ended using established close-out protocols	Outstanding issue
Snowstorm Events		
7. Weather Coordination	Coordination of transportation response and information dissemination regarding weather event	Information Sharing User Group discussed information dissemination
8. Non-standard Freeway usage	Pre-determined agreement as to what extraordinary weather (or traffic) conditions warrant non-standard usage of traffic operations and coordination among key agencies to safely and efficiently deploy this alternative operation	Outstanding issue
9. Multiple Communication Channels to VDOT	Coordination of multiple communication channels when VDOT snow group is activated	Information Sharing User Group discussed information dissemination
Traffic Incident, Hazmat Events, and Snowstorm Events		
10. Network Information Sources	Efficient gathering of event information from network of outside information sources	Information Sharing User Group examined information gathering by each agency
11. Internal Information Dissemination	Information gathered by each agency is disseminated through a shared or integrated CAD system with a shared GIS database	Recommendation for a shared or integrated CAD and GIS system

Table 4: Description and Status of Operations Issue Areas		
OPERATIONS ISSUE	**DESCRIPTION**	**STATUS AS OF JULY 2005**
12. External Information Dissemination	Coordinated method among all PSTOC partners to get consistent information to media, public, and targeted stakeholders	Information Sharing User Group discussed information dissemination and PSTOC PIO position
13. EOC Staff Usage	Efficient coverage of operations floor activities when EOC activation reduces non-EOC staff resources	Administration User Group and DPSC change team examining staffing levels
14. Coordinated Evaluation	Development of post-event evaluation process that enables application of lessons learned to future events or to prevent future events	Outstanding issue
15. Access to Incidents by Responders	Knowledge of best route to incident by emergency responder, including clearance of a single travel lane to provide access	Outstanding issues, some assistance will be provided with interoperable systems
16. Pursuits on Highways	Improved coordination among public safety agencies during high-speed pursuits on highways that may spill onto local streets	Outstanding issues, some assistance will be provided with interoperable systems

d) **Call Taking and Call Transfers Standard Operating Procedures (SOP)** (refer to Table 4: 2, 15, and 16, and Appendix D, page D-71)

This SOP describes four types of calls that agencies handle and the appropriate call taking and transferring of calls between and among agencies within the PSTOC. These four types of calls are (1) Incident on Interstate requiring Fire and Rescue Services; (2) Incident on Interstate NOT requiring Fire and Rescue Services; (3) Traffic Emergency – Non-interstate; and (4) Traffic Non-Emergency – Non-interstate. This SOP assumes that there will be both shared phone and CAD systems, and includes an agreed-upon definition of "emergency."

e) **Video Feed, Wall, and Control Recommendation** (refer to Table 4: 3, and Appendix D, pages D-99 and D-117)

This recommendation describes the use of VDOT CCTV images in the PSTOC and the display of these and other images on the video walls positioned around the operations floor in the PSTOC. Other images include VDOT's MIST system, VDOT's GIS system, Fairfax DPSC's and the State's CAD systems, Fairfax County's helicopter images, national weather images, and VDOT's STC system failure reports.

Multiple video monitors should be enabled to display VDOT CCTV images: the main video wall; secondary video walls; each individual workstation on the operations floor, including supervisory, call-taking, and dispatching workstations; the OEM video wall and supervisor work stations; and designated emergency conference rooms. Master pan-tilt-zoom (P-T-Z, for all images) and image or camera selection (for the video walls) should be located in three areas: all VDOT floor workstations, the VDOT workstation in the PSTOC supervisors' area, and the OEM video wall workstation. All other workstations will only have video image access and no manipulation capabilities. VDOT will retain full control and access of video wall image selection along with primary P-T-Z manipulation.

f) **Multi-Media Display SOP** (refer to Table 4: 3, and Appendix D, pages D-99 and D-117)

This SOP describes the process for using, controlling, displaying, and managing multi-media images. It follows the recommendation for the use of VDOT CCTV images as described above as well as visual images from other sources (such as public safety and media helicopters, land-based images, vehicle-based images – Metro cameras) and data collection stations (such as weather monitoring stations, traffic loop detectors). This SOP also provides a guideline for the videotaping of VDOT CCTV images and covers displays on

various equipment on the operations floor and other areas within the PSTOC and plans for the OEM's use of VDOT's CCTV. This SOP does not include multi-media displays in individual offices that are within the domain of the partner agencies. Separate agency SOPs should dictate the activities within these areas.

2) Management Coordination

The descriptions below outline how the partner agencies will manage the PSTOC and govern the people, space and technologies they have in common. Table 5 lists the areas for which recommendations or standard operating procedures (SOPs) are available (as of fall, 2005), together with their implications for the major areas of managerial planning for the PSTOC. As with other components of the Concept of Cooperation, descriptions here focus on overlapping interests among partner agencies. Many of the recommendations are based on literature reviews, as well as on teleconferences and meetings with leaders of other regional transportation and public safety organizations.

In terms of personnel, this section includes positions that partner agencies in effect share (e.g., a general manager), though technically each person can only be an employee of one agency. The material below also references space and technologies that serve everyone in the building and cannot reasonably be managed by a single agency. Table 6 references a broader list of management issues generated in the fall of 2004 (from which topics for operations work in 2005 were selected), provides status information on the full set, and as well as a basis for the "next steps" in further developing the Concept of Cooperation for the PSTOC.

Table 5: Planning Implications of SOPs and Recommendations

Recommendation or SOP	Implications				
	IT	A&E	Ops Floor Operations	Administration	Financial
Organizational Structure: Partnership				✓	✓
Board: Governing + Operating Boards				✓	
General Manager + Support Staff				✓	✓
Public Information Officer (PIO)				✓	✓
Common Rooms		✓		✓	✓
Exercise Facility		✓		✓	✓
Working Environment		✓	✓	✓	
Parking		✓		✓	✓
Security	✓	✓		✓	✓

a) **Organizational Structure Recommendation: Partnership** (see Appendix D, page D-1)

The PSTOC should be structured as a virtual organization, that is, without official independent standing and functioning as a partnership connected through a cooperative Joint Operations Agreement (see Appendix D, page D-10). The PSTOC can maintain an independent identity without its partner organizations giving up authority or responsibilities. To facilitate effective organizational and operational status, the PSTOC should have its own budget and dedicated staff, including a General Manager.

As the partnership matures and the PSTOC organizational structure evolves, it may eventually be appropriate for the PSTOC to seek 501c(3) status as a non-profit corporation. Non-profit status would allow flexibility in hiring, contracting and procurement, thereby enabling the PSTOC to function more like a business. However, this is a long-term strategy that requires extensive review of financial and tax implications. Exercising this option now would be premature for the PSTOC.

A FHWA case study (http://www.ite.org/library/TRANSCOM.pdf) noted that TRANSCOM sought non-profit status 12 years after its inception and that the eventual transition required three years. An extended and thorough planning and preparation timeline would most likely also be needed to form a regional authority, which would require a legislative mandate for creation.

b) Boards Recommendations (see Appendix D, page D-1)

There should be two primary, multi-agency boards in the PSTOC: a Governing Board and an Operations Board. The PSTOC Governing Board, an executive-level committee, will provide strategic direction and decision-making for the PSTOC. The PSTOC Operating Board, a technical management-level committee, will provide oversight for general operations, budget and resource allocation, and technical policy and programming directions for the PSTOC. The relation between the boards is depicted in Figure 3, "Proposed PSTOC Organizational Structure."

<u>Governing Board</u>

A Governing Board consisting of executive-level representatives from each agency will be needed to set the strategic vision for the Center and develop collaborative strategies for addressing multi-jurisdictional challenges and opportunities. The Governing Board should provide overall programming direction, approve and recommend budgets, be the final arbiter of operational and organizational conflicts, hold quarterly

meetings to discuss strategic issues, and be in place early so decisions can be made with input from all users.

The Governing Board should have the following voting members:

- Deputy County Executive, Co-Chair
- VDOT District Administrator, Co-Chair
- Commander, Division 7, Virginia State Police
- Coordinator, Emergency Management (from Fairfax County)
- Fairfax County Police Chief, or Designee
- Fairfax County Fire and Rescue or Designee
- Fairfax County DPSC Director

In addition, the PSTOC General Manager should be a non-voting member who provides administrative support to the board.

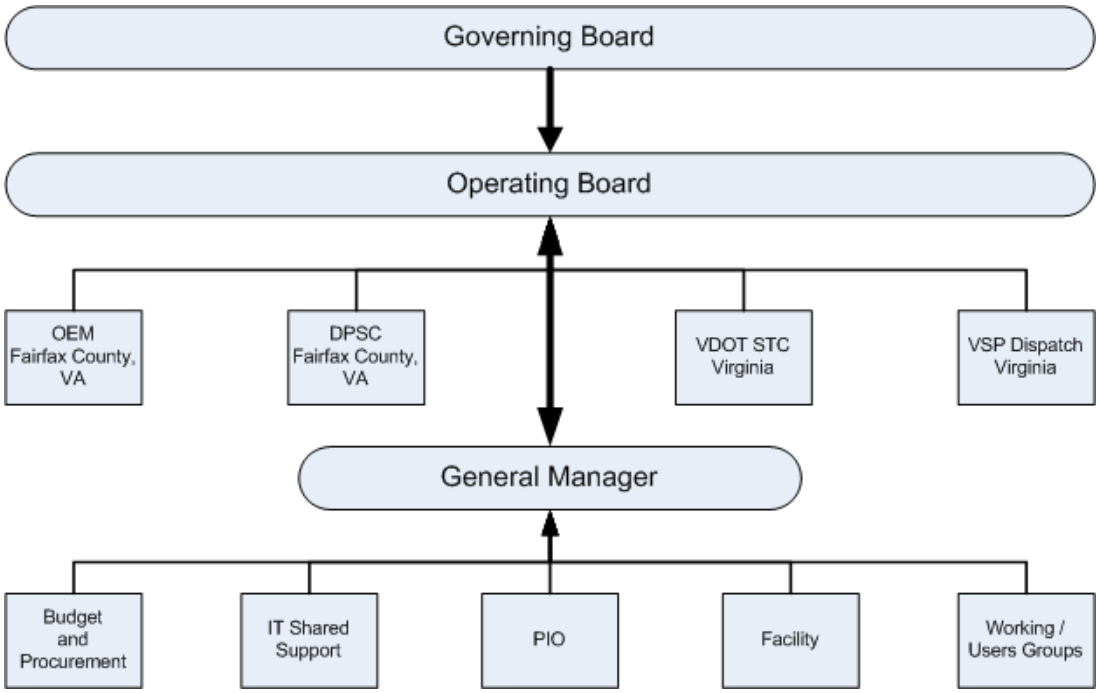

Figure 3: Proposed PSTOC Organizational Structure

Operating Board

The Operating Board should be more tactical than strategic. The Operating Board should address PSTOC operational issues such as budget development, policy development and enforcement, and economies of scale realized from using shared resources. It should be the arbiter of operational and organizational conflicts that can be resolved without

going to the Governing Board. Initially, the Operating Board should meet monthly, then quarterly; during the start-up, the Operating Board may even need to meet daily or weekly.

The Operating Board should have the following voting members:

- PSTOC General Manager
- Emergency Management Coordinator or Designee
- DPSC Director or Designee
- STC Director
- Supervisor of VSP dispatch
- Commander, Investigative Support Division

c) **General Manager Recommendation** (see Appendix D, pages D-1 and D-27)

Due to the multi-agency and multi-functional presence at the PSTOC, a General Manager (GM) is needed to ensure daily coordination and management of the Center's administrative requirements and staff . The GM will also work with the Operating Board to resolve interdepartmental and interagency issues, oversee development and administration of the annual PSTOC budget, and develop and implement standard operating procedures (SOPs) to govern daily operation and use of the facility and its shared spaces. Furthermore, the GM should be the key facilitator and negotiator to aid in decision-making among agency partners, ensure coordination among individual agencies using the facility or its resources, oversee projects to enhance the effort of the various functions within the PSTOC, and coordinate the development and management of the Joint Operations Agreement (see Appendix D, page D-10).

The PSTOC GM should provide support to the PSTOC Governing Board and serve as a member of the Operating Board. The GM should report directly to Deputy County Executive and VDOT District Administrator on issues such as hiring, firing, and evaluations. The GM should be personable, credible, knowledgeable, and organized. If hired soon, (no later than summer, 2006), the GM can assist in the development of the PSTOC initial SOPs, change management plan, and shared staff hiring. The GM should be a Fairfax County employee paid proportionally by the County and the State (85% County contribution 15% State contribution based on the MDA formula). The GM should have any assistants hired by winter, 2006.

d) **Support Staff Recommendation** (see Appendix D, pages D-1 and D-193)

Research on other organizations reveals that staff that is independent of any specific agency is often best able to address conflict and avoid accusations of favoritism. Support staff should provide assistance for the common functions of all member agencies and should be managed by the General Manager.

Support staff would often be the primary contact with the public, the media, and each of the partner agencies. Support staff could include:

- Procurement/contracts manager
- Financial officer
- Public Information Officer
- Building manager
- Office manager
- IT manager
- GIS coordinator
- Security manager

e) **Public Information Officer Recommendation** (refer to Table 4: 12 and Table 6: 12, and Appendix D, pages D-1 and D-193)

This recommendation would establish a public information officer position for the PSTOC facility. The PIO should be a Fairfax County position, which would be a combined PSTOC/DPSC PIO position, charged with addressing all PSTOC (center and operations) and all DPSC issues. Each of the other agencies would still have its own PIO (VSP, FCPD, FCFD, VDOT) who would address specific issues related to its individual activities, but would not address issues related to the whole PSTOC facility, except as a partner with the PSTOC PIO.

The PIO would be responsible for internal communications within the DPSC, as well as external communications, including media relations. The PIO would also serve as liaison to the community for the DPSC, would need to have a broad understanding of the PSTOC partnering agencies, and would be involved with the proposed client advisory board of the DPSC. Among other tasks, the PIO would coordinate the information that would be shared with the public and the media and address 9-1-1 public concerns. Any media inquiries about first responders would come to this person. The PIO would also be responsible for speaking engagements, presentations to civic groups, and the coordination of on-site tours.

During emergency events or when the Alternate Emergency Operations Center (A-EOC) is opened, the PIO would become part of the County's PIO corps and fall under the direction of the director of the Office of Public Affairs, which is responsible for countywide communications whenever three or more counties or other public agencies are involved in a situation.

f) **Facilities-related SOP's** (full texts available in Appendix D, page D-139)

A number of standard operating procedures were developed by the Facilities Users Group and brought to the Operations Coordinating Committee. These

SOPs were also presented to the Master Planning Leadership Team, but not formally adopted. It is recommended that the Master Planning Leadership Team work with the PSTOC General Manager (if selected) for formal approval and implementation of these facility-related SOPs.

Common Rooms (Appendix D, page D-139): describes the process for managing, scheduling, using, and maintaining common spaces in the PSTOC, such as the training/media briefing room, kitchen, dining area, and operations floor (a.k.a., the Communications Center/VDOT Control Center).

Exercise Facility (Appendix D, page D-146): describes regulations for managing this facility.

Working Environment (Appendix D, page D-171): describes regulations related to noise levels, use of personal audio/video/recording devices, smoking, food/drink, tidiness, and personal conduct.

Parking (Appendix D, page D-178): describes rules and regulations for managing parking areas.

Facility Badging, Access and Security (Appendix D, page D-153)**:** describes all aspects of physical security, including the management of external access/egress, badging, and internal zones.

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Table 6: Description and Status of Management Issue Areas		
MANAGEMENT ISSUES	**DESCRIPTION**	**STATUS AS OF JULY 2005**
Human Resources		
1. PSTOC governance	Establish the strategic organizational framework for the PSTOC	Recommendations from Administration User Group accepted by Leadership Team
2. PSTOC management and support staff	Create a joint approach to the day-to-day running of the PSTOC	Recommendations from Administration User Group accepted by Leadership Team
3. Training	Design and deliver combined or stratified training of new systems to ensure maximum use by PSTOC staff	Administration User Group and others beginning discussion of common training needs
4. Evaluation	Expand opportunity for feedback from staff and for targeted examination and use of national best practices	Initial network of peers being developed, some input from staff received through their participation in OCC user groups
Facilities		
5. General purpose space	Identify common areas and set guidelines for use	Recommendations from Facilities User Group submitted to OCC
6. Working Environment	Describe policies for employees' personal conduct and use of facilities	Recommendations from Facilities User Group submitted to OCC
7. Parking	Describe rules and regulations for managing parking areas	Recommendations from Facilities User Group submitted to OCC
8. Physical security	Define layout to ensure common security needs are met and center-wide procedures are easy to follow and enforce	Initial consideration by Facilities User Group, draft SOP passed to A&E team
9. Records management	Share best practices and consolidate to have coordinated records management system	No formal consideration yet; IT staffs meeting together and with operations staff
Administrative/Legal		
10. Contracts management	Reduce individual agency's overhead by identifying common contractual interests	Initial discussion by Administration User Group
11. Finance	Maximize the financial resources from all partner agencies by understanding funding requirements	High level internal agency and MDA discussions have taken place

Table 6: Description and Status of Management Issue Areas		
MANAGEMENT ISSUES	**DESCRIPTION**	**STATUS AS OF JULY 2005**
External Relations		
12. Media relations	Design, establish, and carry out coordinated information dissemination	PIO and media issues examined by Facilities, Administration and Information Sharing user groups; Information Sharing User Group submitted recommendation to OCC
13. Outside agencies / organizations	Develop SOPs regarding access to PSTOC facility by agencies and organizations that are not tenants	Facilities User Group considered via its security SOP; needs review by A&E design team
Crosscutting Technology		
14. Communication systems (hardware / software)	Realize economies of scale in procuring, installing, and maintaining equipment	System development by IT, Dispatch, and Info Sharing User Groups
15. Communication systems – use	Set guidelines on use so potential is maximized	SOPs for system use to be developed by reps from operations floor
16. Equipment control and use	Seek out tasks of common interests that can benefit from mutual use of center-based and field equipment, then determine control requirements	Some discussion initiated, but not full understanding of all systems

d. WHO: People who make it happen

The Concept of Cooperation becomes real only to the extent that specific people take responsibility for further defining and implementing the details of the partner agencies' agreements. These people include

1. Residents (managers and employees of partner agencies and their support contractors)
2. Non-residents (managers and employees of partner agencies and their support contractors)
3. Stakeholders (government executives and politicians in partner organizations who take care of strategic issues – funding, media, political support, etc.)

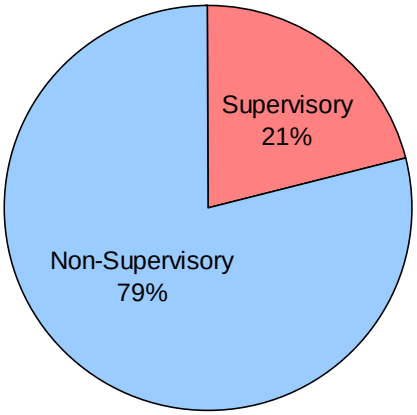


Figure 4: PSTOC Positions by Supervision

In addition to senior managers and executives who have guided PSTOC operations activities, a number of people likely to be residents in the PSTOC have had some input into the development of the procedures and recommendations outlined in the previous section (3c). In order to be more informed about the best people to involve in the next steps of fleshing out and implementing the Concept of Cooperation, agencies put together a preliminary, consolidated database of all public employee positions and contractors that are slated to be located in the PSTOC or are outside of the PSTOC but substantially involved in carrying out its mission (Appendix E, page E-5). In addition to assessing who needs to be part of future operations-related discussions, such a database can illustrate a number of staff-related items of interest to a general manager. These could include PSTOC positions by shift (see Table 7 and Figure 2), supervisory responsibility (see Table 7 and Figure 4), as well as staffing gaps (see Table 7 and Figure 5).

Table 7: PSTOC Agency Staffing as of October 2005

Positions by Agency		Positions by Supervision		Positions by Status		Positions by Shift	
DPSC	175	Supervisory	56	Vacant	32	Day	118
OEM	17	Non-Supervisory	211	In Training	12	Night	79
VDOT	53			Filled	227	Unknown	79
VSP	32			Unknown	0		
				Acting	2		
Total	**277**	**Total**	**267**	**Total**	**273**	**Total**	**276**

NOTE: The staffing figures are estimates as of October 2005. These employee counts are subject to change.

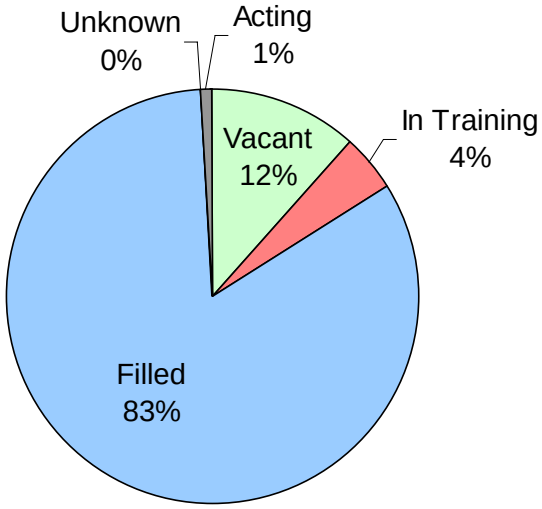


Figure 5: PSTOC Positions by Status

4. Operational Scenarios

The five scenarios presented in this section are typical situations that might arise in during PSTOC operation. This section provides an overview of how the partner agencies will respond to incidents and of core PSTOC activities based on work to date in designing joint operations. These guidelines include the preliminary and draft SOPs, and recommendations (listed and described in section 3c-i of this document). The scenarios are based on the assumption that these guidelines will be codified and adopted by the partner agencies without substantial changes. "Key Features" – listed after each scenario – highlight the differences between how each agency currently operates and how the agencies will operate once they move into the PSTOC. "Potential Features" – listed after the "Key Features" – highlight opportunities for improving the coordination of operations among agencies. They are presented in more detail in Section 5.

a. Scenario 1: Accident with injury ("standard accident")

A call from a civilian comes into the PSTOC. The caller is on scene and states that there has been an accident, probably with an injury, on one of the area interstates. For all medical calls received through VSP's #77, including accidents with injury, or through VDOT for locations within Fairfax County, the call is transferred to Fairfax County DPSC in a manner that ANI/ALI[3] follows the call. If the call originated with VSP, the VSP call taker would stay on the line as a third party (with DPSC and the caller) after transferring the call in order to monitor and obtain primary information for VSP dispatch.

Fairfax DPSC's SOPs dictate call entry for the Fairfax DPSC call taker. Primary information obtained and processed by Fairfax DPSC includes all of the caller's information: location, chief complaint, name, phone number of caller, direction of travel, lanes blocked, lane of travel, number of vehicles, and description of vehicles. This information is entered into a shared CAD system and appropriate information is flagged for VSP's and/or VDOT's attention. Data fields that are pushed or pulled between agencies include location, incident type, name and call back number, remarks, and indication of primary agency responsible. Fairfax DPSC, VSP, and VDOT's STC and CSC share this CAD system. This system has a shared GIS that automatically verifies locations and displays the location in the format necessary for each agency.

Throughout the call taking and dispatch/response periods, call takers, dispatchers, and supervisors can view the incident via VDOT CCTV. CCTV

[3] ANI and ALI are the 9-1-1 caller's telephone number and location information. When the call is received, this information is displayed to the call taker on a computer screen. ANI is Automatic Number Identification and ALI is Automatic Location Identification (name, address, town, latitude, longitude, etc).

images are displayed on video walls dispersed around the operations floor and on all individual workstations. Control of CCTV images, i.e., pan-tilt-zoom (P-T-Z) and camera image selection (for the video walls) is controlled in three areas within the PSTOC: all VDOT operations floor workstations, the VDOT supervisor workstation in the PSTOC supervisors pit area, and the OEM video wall workstation. Each individual workstation has the ability to select the image(s) they wish to see on their monitors. The VDOT workstations retain primary P-T-Z control and access of the video wall image selections.

Each agency's policies and procedures dictate how its dispatchers allocate personnel, equipment, and apparatuses to the scene. Each agency also has its own closeout procedures.

Key Features of Scenario

- A shared phone system would facilitate the transferring of calls and would enable information to be shared across the agencies – currently, since VSP does not have the ANI/ALI capability, the number, name, and location of the caller have to be verbally conveyed to the VSP call-taker when a call is transferred.
- A shared or integrated CAD system would enable information to be shared across the agencies and reduce redundancy. Currently, each agency has its own CAD system (except for VDOT, which can see VSP's CAD information) and no information is shared across the different systems. Also, each agency may have multiple records for each incident. A shared or integrated CAD system would allow a single record for each incident into which each agency could add information that is then shared with all agencies.
- A common GIS database would enable sustaining single records for each agency and would translate location information into the format required or used by each agency. Currently, each agency's call takers have their own method of entering and relaying location information (e.g., one agency refers to highways by their route numbers and while another agency refers to highways by their name, which may vary along the length of the highway).
- CCTV images would be available to all agencies on the main video wall, dispersed video walls, or in each agency's workstation. Currently, aside from VDOT, only Fairfax Fire Dispatchers have a video wall of CCTV images.

Potential Additional Features of Scenario

The PSTOC partner agencies could further improve their coordination and the benefits of having shared systems and being co-located, by pursuing opportunities during the phases of call taking and responding to an accident with injury. These include:

- Create procedures to identify appropriate course of action for non-VDOT staff requesting a CCTV image change (for either the video wall or for P-T-Z).
- For the routing of calls, review and change (if necessary) each agency's policies and procedures for call taking, dispatching, and on-scene management to identify opportunities to coordinate with other agencies and use the shared systems. Ensure that the revised policies and procedures are used in the training of new employees.
- Discuss among partner agencies the various types of accidents and the best way to coordinate and share information for each.
- Discuss opportunities among partner agencies to coordinate when closing out, particularly given that the agencies will be using a shared CAD system.

b. Scenario 2: Transportation Hazmat emergency (e.g., "black powder")

A call from any of a variety of sources (typically a civilian 9-1-1 call) comes into the PSTOC. The caller recounts that a large chemical truck has just turned over on one of the area's interstates and its contents are leaking onto the highway. It is unknown if there are any injuries. As with all medical calls, including accidents with injury, received through #77, VSP, or through VDOT for locations within Fairfax County, the call is transferred to Fairfax County DPSC in a manner that ANI/ALI follows the call. If the call originated with VSP, the VSP call taker would stay on the line as a third party after transferring the call in order to monitor and obtain primary information for VSP dispatch. The call taking and transfer protocols followed during a "standard" accident (Scenario A above) are also followed during this Hazmat scenario.

Because this is deemed a potential Hazmat event, much of the operations floor video wall is directed to the CCTV camera images of the accident site to obtain additional information regarding the chemical leak (e.g., hazmat placard, extent of leak, details regarding the surrounding environment) and to determine if there are injuries present. In addition to examining the site from the operations center, a VDOT Safety Service Patrol vehicle and/or VSP patrols are dispatched to the site for field verification. Because of a coordinated communications system, 9-1-1 and field verification information can be shared in real-time by all potential responding agencies and a "major incident" (including a hazardous material spill) may be called based on information obtained at the PSTOC, thus reducing agencies' preparation and response times.

If the field staff verify hazardous materials (or a major incident is identified), individual PSTOC agencies may initiate their own Joint Operations Center (JOC) or activate the EOC. Because the JOCs and the EOC are located within a single

building, upgrading from a JOC to an EOC event is logistically simplified. As soon as it is evident that the incident will have impacts on traffic, the Fairfax County Police Department's Traffic Division activates its Traffic Information Center (TIC) to coordinate transportation activities between Fairfax County and VDOT, also simplified because of their co-location.

When first notified of a hazardous material spill, the OEM begins its contact and coordination tasks. OEM staff remains in contact with the on-site Uniform Fire Officer (UFO) to determine if elevation to EOC status is required. They may use the EOC to support the on-scene command post or become the primary command center. In the case of a Hazmat spill, the on-scene command post usually retains control of the situation. When the EOC is activated, PSTOC operations floor supervisors are notified and field personnel receives notice over their field communications devices. (*How this notification occurs is still an open item and appropriate to be reviewed in the future.)* Some call takers, dispatchers, and supervisors from the operations floor are directed to report to the second floor EOC.

The EOC personnel communicate the chain of command-decision making, establishing the lines of authority. In the EOC, the OEM staff work with the on-site command to coordinate necessary emergency support functions and appropriate resources for response and recovery, including communication and coordination with external entities. The EOC media liaison or the PIO from the command agency (or the PSTOC PIO) continues to provide the media and public with information. If traffic impacts are expected to be significant, then TIC and VDOT STC representatives determine the best pre-determined routes along the local roads and adjust signals in the most efficient phasing to best accommodate the additional traffic. The DPSC dispatchers send Fairfax County police officers to strategically pre-determined areas on County roadways to assist with overflow and rerouted traffic.

Throughout the notification, verification, and response/mitigation periods, PSTOC personnel can view the Hazmat incident via the VDOT CCTVs. CCTV images are displayed on video walls dispersed in the EOC, around the operations floor, in the JOCs, and on all individual workstation monitors. CCTV pan-tilt-zoom functions and camera image selection (for the video walls) is controlled in three areas within the PSTOC: all VDOT operations floor workstations, the VDOT supervisor workstation in the PSTOC supervisors pit area, and the OEM video wall workstation. The VDOT workstations retain primary P-T-Z control and access of the video wall image selections.

Close-out proceeds according to each agency's procedures. At the end of the Hazmat event, the EOC is de-activated. The OEM also conducts final checks that the clean-up operations and that response resources are removed from the scene. As part of this close-out, the last fire or rescue unit on the scene inputs into the

CAD "scene clear," automatically notifying all PSTOC operations floor personnel that the event has ended for the PSTOC dispatchers. During the subsequent weeks, OEM staff works with the responding parties to develop event close-out documentation.

Key Features of Scenario

- A shared phone system facilitates transferring calls and enables information sharing across agencies – currently, VSP does not have the ANI/ALI capability, so the number, name, and location of the caller have to be verbally conveyed to the VSP call-taker when a call is transferred.
- A shared or integrated CAD system enables information to be shared across agencies and reduce redundancy – currently, each agency has its own CAD system (except for VDOT, which can see VSP's CAD information) and no information is shared across CAD systems. A shared or integrated CAD system allows easy transition of a single incident record from the operations floor to the JOC or the EOC, when either is activated.
- CCTV images are available to all agencies on the main video wall, dispersed video walls, or in each agency staff's workstation. [Currently, except for VDOT, only Fairfax Fire Dispatchers have a video wall of CCTV images; also, fire dispatchers have to contact VDOT to change the camera views
- Because the CCTV camera images would be available to the majority of staff at the PSTOC, the dispatchers and supervisors can assess an increased number of incident conditions before sending response vehicles. Currently, the on-site incident commander declares the majority of major incidents. With increased capabilities for a remote assessment of the incident scene from the remote site (the PSTOC), the operations floor can greatly assist in determining the severity of the incident. At the very least, a better view of the site would enable a higher-level of response to be sent more quickly than waiting for the first responder to determine the incident conditions.
- Coordination among the entities activated when a major incident is declared – the JOCs, the EOC, and the VDOT STC – is simplified due to the close physical proximity. Currently, the JOCs, EOC, and VDOT STC aredispersed throughout Fairfax County and northern Virginia.
- The "borrowing" of DPSC staff during an EOC activation is likewise simplified due to the staffs' being housed under a single roof. Currently this would require a four-mile drive from the current 9-1-1 call center to the Alternative EOC.
- The use of a single PIO to disseminate information ensures that consistent external information is funneled to the public. The use of a shared or integrated CAD system with a shared GIS database ensures that consistent

internal information is funneled to the partner agencies and other key entities involved with the PSTOC.

Potential Features of Scenario

The PSTOC partner agencies could further improve their coordination by pursuing opportunities to prepare for transportation emergencies. These include:

- Create procedures to identify appropriate course of action for non-VDOT staff requesting a CCTV image change (for either the video wall or for P-T-Z).
- Discuss more efficient coverage of DPSC operations floor activities when the EOC activation reduces non-EOC staff resources.
- Review lane-blockage policies of responding agencies. This review may lead to an agreement on instances where some "blockage" can be reduced to enable increased traffic flow around the crash or incident scene.
- Formulate operations and technology plans that use a multi-agency coordinated effort to re-route traffic efficiently away from the freeways along pre-determined local routes during major incidents.
- Discuss opportunities among partner agencies to coordinate when closing out various types of incidents, particularly given that the agencies will be using a shared CAD system. A shared or integrated CAD system would allow the creation of a single record for each incident into which each agency could add information that is then shared with all agencies. This will ensure that when one partner is notified of close-out, all agencies are notified through the same record.

c. Scenario 3: Transportation non-emergency

A call comes in to the PSTOC from a civilian. The caller reports that there is debris on the side of one of the area's interstates. The caller is on a cell phone and not on the scene. Information is gathered by the primary call taker and entered into the shared CAD system. If the caller has more information, the call is transferred to VDOT's Customer Service Center (CSC) for additional assistance or information. If not, the caller is released.

The CSC gathers any additional information from the caller and enters it into the CAD record. If the caller was released, the CSC will see the information that was initially entered into the CAD record. In either case, CSC staff can pull up a VDOT CCTV image of the area on one of their monitors to verify the location of, and any hazard posed by, the position and type of debris. CSC staff can contact STC staff to request a P-T-Z change of the CCTV camera if necessary. Once all

information has been gathered, the CSC schedules a response from VDOT to remove the debris.

Key Features of Scenario

- An SOP for call taking and call transfers among agencies illustrates the types of calls to go to each agency. An attachment to this SOP defines what is considered an emergency situation and what is not. If trained properly, call takers from all agencies will know to what other agency they should transfer various types of calls.
- A shared or integrated CAD system enables information to be shared across agencies, including the CSC, and reduce redundancy.
- CCTV images are available to all agencies on the main video wall, dispersed video walls, or in each agency staff's workstation. Though the CSC will not be located in the same building as the other agencies, they will still have access to the CCTV images.

Potential Features of Scenario

- Add detail to the Call Taking and Call Transfer SOP. While this SOP contains useful information, more information should be added, for example, the agencies to contact or to respond given the locations of various types of incidents. (There are placeholders for some of this information in the current version of the SOP in Appendix D.)
- Define what information is flagged in the system for each agency. Agencies should decide the information for various types of incidents they would like flagged for their attention. For the above scenario, the STC may choose to have this kind of information flagged in the CAD system for their attention so that they can verify, perhaps via CCTV, the position and type of debris, and then to determine if the debris interferes with the flow of traffic. The agencies would also discuss how the flagged information is monitored so that proper actions are taken.
- Consider CSC being located on the operations floor. If space became available for CSC on the operations floor, the agencies may benefit from their presence, and vice versa. CSC would benefit from being able to see the main video wall and partner agencies would benefit from knowing who is on the other end of the telephone.
- Create procedures to identify appropriate channels for non-STC staff requesting a CCTV image change (for either the video wall or for P-T-Z).
- Decide what type of VDOT CCTV monitor(s) CSC will have. Currently, CSC has a portable video wall.

d. Scenario 4: Day-to-day management

A day-shift dispatcher pulls up to the security gate that leads to the PSTOC staff parking area. She swipes her badge and the gate lifts to allow her to park. At the same time, PSTOC security has a record of who has been granted access into the reserved area. PSTOC security, overseen by PSTOC Administration, is also capable of tracking when staff enters the building because the security management system includes access to external and (select) internal surveillance cameras. The security management system that has been developed as a result of collaboration among the partner agencies also has the capabilities to track visitor arrivals and departures.

The dispatcher arrives at her workstation on the operations floor a few minutes early and takes her personal belongings to the designated locker room and her lunch to the designated refrigerator. SOPs for the appropriate use of both common areas have been developed. These common areas are under the purview of PSTOC Administration.

The day-shift dispatcher relieves her night-shift counterpart and proceeds to perform her work duties. Also on the operations floor, a VDOT dispatcher has noticed that one of the video wall "cubes" is not projecting properly. He contacts the operations floor VDOT supervisor. The supervisor contacts the PSTOC Administration, who oversees the PSTOC support equipment. An administration staff schedules either on-site or contracted maintenance to repair the business equipment.

At 10:00AM, the dispatcher is scheduled for CAD training in a training room, reserved by the trainer via the on-line room reservation system, that is maintained by IT personnel and managed by PSTOC Administration. The room reservation system covers scheduling of all common rooms, and can be expanded to enable the reservation of agency-dedicated training and conference spaces.

At the same time as the training, the PSTOC General Manager is meeting in another conference room reviewing the overall PSTOC operating costs with the budget manager and DPSC Director, EOC Coordinator, VDOT STC Manager, and the VSP Lead Manager. The distribution of the common operating costs will be based on pre-determined percentages.

In the afternoon, a VIP group visits the Center. The PSTOC General Manager (or appropriate agency or PSTOC PIO) provides the group a tour of the center. The tour guide avoids entry onto and disturbance of the operations floor by viewing the operations from the second floor training room. Security clearance allows access to the other areas of the PSTOC, including the mechanical rooms and the EOC. After the VIP group leaves, the PIO meets with a media crew that has asked to tape a news story using the outside of the PSTOC building as backdrop.

This feed has already been coordinated through the PSTOC Administration, who has been assured that the landscaping contractors would be done with their yard work by the time the media needs the shot.

The dispatcher takes an afternoon break for a class in the exercise room that is led by an instructor obtained by PSTOC Administration. Later, the day-shift dispatcher closes her workstation and leaves through the staff entrance, still being monitored by the security staff. Shortly thereafter, when PSTOC operations are at their quietest, the cleaning crew arrives to sweep, mop, and empty the trash. The PSTOC Administration manages both the external and internal building and grounds maintenance contracts that include center cleaning.

The PSTOC night-shift staff arrives at the center. The night-shift staff resumes the on-going round-the-clock business functions at the PSTOC, although the evening and early morning hours are usually quieter than the daytime.

Key Features of Scenario

- The operations, A&E, and IT teams have focused attention on physical security for the building and its occupants. This will be evident in the secured staff parking and entrance areas, various building security zones, and the security staff procedures.
- SOPs for multi-agency use and upkeep of the general purpose areas have been developed. These common spaces include the entrance, waiting area, kitchen, lunchroom, conference rooms, locker room, and exercise facility.
- The PSTOC Administration is responsible for the seamless operations and management of all the PSTOC activities that fall outside of the business functions for each of the partner agencies. This includes fiscal management, media and public relations, center security (including parking management), human resources (specifically concerning administration and support staff), technology maintenance, and building oversight responsibilities (internal and external).
- An on-line room reservation system simplifies coordination of room use.
- A well-managed center allows the operational functions to be tied closely to the PSTOC's core mission and reduces time diverted to non-mission-critical business.

Potential Features of Scenario

Many potential improvements to this scenario will come as a result of a newly designated PSTOC General Manager. However, a number of these improvements can be pursued before the creation of any PSTOC Administration staff. These include:

- Finalize PSTOC security procedure concepts into formal SOPs.
- Create and implement training plans for new or integrated systems. Initial discussions regarding combined or stratified training regarding these new systems (as well as other on-going training for PSTOC staff) only recently began among the partner agencies.
- Develop a Center feedback forum so policies and procedures can be modified as needed. Develop a methodology for assessing and applying national best practices for management of multi-agency operations centers.

e. Scenario 5: Governance

During an icy afternoon peak period in mid-January a major accident on I-66 snarled traffic for over three hours, cost two people's lives, and injured seven people, four seriously. A few days afterward the co-chairs of the PSTOC's Governing Board asked the PSTOC general manager to summarize her view of how well partner agencies worked together in that incident, and thoughts she might have about underlying issues. Several board members heard conflicting reports about the effectiveness of cooperation between the VDOT's STC staff and the County's DPSC dispatching staff in locating the accident scene, and between County police and STC in diverting traffic to local arterials. In addition, the Chairman of the Board of Supervisors called the County's co-chair on the Board demanding to know why the PSTOC's response times seemed so long.

Since the GM had four business days until reporting to the Governing Board, she quickly convened a listening and brainstorming session with her colleagues on the Operating Board and selected senior staff. She led a spirited discussion of just what had happened that icy afternoon, and learned that each side in the room had some important messages about how the PSTOC could do better, particular with respect to refining protocols for particular types of situations. Further, she heard and strongly agreed that it was time to give serious consideration to improve performance by *a priori* problem identification and solving that is targeted at the steps in which two or more partner agencies must cooperate. She and one of her staff also interviewed other PSTOC staff involved in responding to the accident.

Armed with an analysis of the factors that were key in understanding the PSTOC's response to the accident, the GM effectively presented her findings and recommendations for short- and long-term changes for the Governing Board to consider.

Key Features of Scenario

- Proactive Governing Board and open line of communication with GM

- GM worked collaboratively and had a good rapport with Operating Board members and senior staff

Potential Features of Scenario

- Proactively conducting facilitated simulation of the above and similar scenarios to identify and address problem areas
- After-action reporting on a regular basis for smaller events. This includes a non-onerous, simplified, but useful report-out process that enables capture of lessons learned.
- Performance measures integrated into management evaluation and decision-making
- Automated workflow diagramming, which enables identification of problem points and quick examination of alternate sequences

5. Opportunities and Actions

With PSTOC's doors opening in about two years, a number of operations-related issues are now on the "critical path." Building on the progress to date, this section outlines issues and questions in the areas of "operations floor" and "management coordination," together with cross-cutting topics that need attention for PSTOC implementation to stay on schedule.

a. Operations Floor

Table 8 outlines the four categories of outstanding operations floor issues, together with the actions still needing attention in each category.

TABLE 8: OPEN ISSUES: OPERATIONS FLOOR

Open Issues	Lead Agency
1) Shared or Integrated CAD System	
a) Develop one common record	DPSC
b) Define information needs by incident and agency	DPSC
c) Coordinate incident closeout	DPSC
d) Share CAD training	DPSC
e) Agree on CAD back-up procedures or system	DPSC
f) Identify CAD links to external entities	DPSC
g) Examine policies / procedures on shared systems	DPSC
2) CCTV Access and Management	
a) Create procedure for request to change CCTV image	VDOT STC
b) Select VDOT CSC CCTV monitor(s)	VDOT CSC
c) Identify CCTV image links to external entities	VDOT STC
d) Develop (or re-assess) video taping policy	VDOT STC
3) On-Scene Management	
a) Review lane blocking policies	VSP / DPSC
b) Create multi-agency operations and technology plans	VSP / DPSC
4) Operations Floor and Personnel	
a) Assess value of VDOT CSC on Operations Floor	Operating Board
b) Assess value of Fairfax County Sheriff's dispatcher on Operations Floor	Operating Board
c) Examine various uses of supervisors' area	DPSC / PSTOC IS Manager
d) Determine appropriate use of situation rooms	GM/ Operating Board
e) Manage sharing of DPSC staff with EOC	DPSC / OEM
f) Evaluate nationwide best practices	Operating Board

1) Shared or Integrated CAD System

The partner agencies need to resolve a number of issues surrounding the use of an integrated or shared CAD system.

a) **The agencies need to decide if and how one record can be built upon by numerous agencies vis-à-vis their CAD system.** Agencies have their own records for each incident. They need to decide if it is practical and possible to work off of, and building onto, the same record in their CAD system. If possible, the use of one common record would be efficient since each agency would be literally on the same page for any given incident.

b) **The agencies need to define what type of information is flagged in the system for each agency for various types and locations of incidents.** While the Call Taking and Call Transferring SOP provides a foundation for this process, it is not specific enough to cover the myriad of incident types in which the agencies may be interested.

The agencies should adopt a systematic, rather than an ad-hoc approach to this process. First, they should identify and list all of the types of information they want captured in the CAD system. Concurrently, the agencies should identify and group incident types. Second, each agency should determine what information it wants for each type of incident (as well as the incident's location – for example, latitude and longitude). Third, the agencies should decide who would monitor the information that is "pushed" to them from a record that has been written or added upon by another agency. As part of this step, the agencies should determine what is done with this information once it is received.

c) **Agencies should discuss ways that they can coordinate to closeout an incident.** The agencies should review each incident type and determine what agency(s) should be responsible for closing out the record, in cooperation with the other agencies. The agencies should also determine what steps, information or process are necessary for each agency to close out an incident formally. The result will be a single close-out process that addresses each agency's needs while saving time and communicating to all of agencies simultaneously that an incident has been closed out.

d) **All agencies should train on the CAD system together.** When possible, current and new employees should be trained on the shared or integrated CAD system together. This shared training experience will familiarize each agency's staff with each other and will decrease the aggregated training time that would be spent if each agency trained its staff on its own. It is understood that agency-specific training will be necessary for many of the unique applications, but joint training is recommended on the system basics.

e) Agencies should discuss the back-up system necessary when CAD is down. Members of the Dispatching User Group discussed this issue at their final meeting (on August 23, 2005). The group thought that DPSC's policies and procedures would be appropriate. When CAD is down, the only logical means of communicating and tracking incidents is by writing down the information. DPSC uses a duplicate form and it was suggested that a triplicate form be considered. Each tier of the form could be a different color. If the information needs to be "pushed" to another agency as the call is taken, it can be done through the carbon copies color-coded for each agency. User Group members were going to check with their respective agencies to see if all of the information from the various agencies can be incorporated into the one form.[4]

f) **Agencies should consider linking the shared or integrated CAD system with non-PSTOC agencies**. Partner agencies should identify outside organizations that could benefit from this link (and vice versa) and determine the technical resources needed to make it possible. Potential non-PSTOC agencies include: Fairfax City Police, Fairfax County Sheriff, neighboring counties' public safety departments, and neighboring transit agencies.

g) **Having taken the above steps, agencies should review their existing policies and procedures given the opportunities afforded by being co-located in the PSTOC.** The agencies need to review and change (if necessary) their policies and procedures for call taking, dispatching, and on-scene management to incorporate opportunities to coordinate with other agencies and maximize the use of the PSTOC's shared systems. Existing policies have been written for existing systems, processes, and solitary agencies. When the agencies move into the PSTOC, they will primarily be using new, integrated systems and will be co-located on the same operations floor. Existing policies and procedures should be evaluated given this new context. Revised policies and procedures should then be used in training new employees.

2) CCTV Access and Management

Though the partner agencies have discussed the management of VDOT CCTV images on the operations floor, more work is still necessary.

a) **Agencies need to create a procedure for non-STC staff to request a CCTV image change** (for either the video wall or for P-T-Z on the dispersed or workstation monitors).

[4] Marilynn Alexander was to gather samples from STC and Lucy Rowe was to gather samples from VSP. These User Group members were to then submit these forms to Carolyn Kellam.

b) **Agencies need to decide on the type of CCTV monitor(s) CSC will have** (either a small video wall and/or workstation monitors).

c) **Agencies should discuss whether to provide CCTV links to non-PSTOC agencies**, particularly for public safety agencies in nearby counties.

d) **Agencies need to agree on the conditions when images should be taped and how requests for taping should be made.** VDOT will be making these decisions and sharing their policy with the other agencies. The other agencies need to develop their taping policies ifthey own any CCTV equipment and a need to tape arises.

3) On-Scene Management

Agencies have yet to discuss on-scene management. By building on the cooperation and coordination that has so far occurred among agencies on operational issues within the PSTOC, the agencies can address operational issues in the field.

a) **Agencies should review the lane-blockage policies of responding agencies.** The agencies may be able to create an agreement on instances where some blockage may be reduced to enable greater traffic flow around the accident or incident scene and/or to better coordinate the position of their vehicles and/or apparatus with those of the other responding agencies.

b) **Agencies should create operations and technology plans that use a multi-agency coordinated effort to re-route traffic efficiently away from freeways and major arterials** along pre-determined local routes during major incidents.

4) Operations Floor and Personnel

The Operations Floor, as conceived today, should not be viewed as a static space with pre-determined, permanent agency positions and a constant order of operations. Agencies should consider it a dynamic space they can adapt to the needs of the region as it and the severity of specific events changes over time.

a) **Agencies should consider the benefits and drawbacks of having CSC located on the operations floor.** Though current plans do not provide space for the CSC on the operations floor, agencies may benefit from their presence, and vice versa, if space became available. For example, CSC would benefit from being able to see the main video wall and all of the agencies would benefit from knowing the person on the other end of the line better.

b) **Likewise, the agencies should discuss having Fairfax County Sheriff's dispatcher(s) on the operations floor as well.** The Dispatching User Group discussed this issue at their last group meeting and planned to recommend that the Sheriff's Department have a dispatcher on the operations floor.[5] Currently, DPSC dispatchers' responsibilities include handling the dispatching of Sheriff's deputies.

c) **Agencies should decide how to use the supervisor's area** and what type of equipment should be available in this area. For certain types of events, or under more heightened conditions, agencies may want to use the supervisor's area as an ad hoc focal point for regional operations. Also, agencies may find that instead of needing several pieces of equipment dispersed in each of the agency's areas that monitor the same thing, it may make more sense for there to be one piece of that equipment in the supervisor's area.

d) **Agencies should decide how the situation rooms adjacent to the operations floor should be used.** Agencies may want to use these situation rooms, some of which are dedicated to single agencies, for certain types of events and may want to share the space with staff from the other agencies under some circumstances.

e) **The agencies should discuss ways to cover DPSC operations floor activities more efficiently when EOC activation reduces non-EOC staff resources**. Because the EOC requires the assistance of DPSC operations floor staff, the DPSC usually needs has additional call-takers, dispatchers, and supervisors to maintain an acceptable coverage level on the operations floor. This may provide a key opportunity to use any "cross-trained" dispatch and supervisory staff from other operations floor agencies. Determination of how to maintain adequate staffing levels can include both DPSC and OEM discussions, and DPSC and VSP and VDOT discussions.

f) **The agencies should evaluate best practices from other joint operations centers exist across the nation.** Agencies in these centers should be surveyed to understand the issues, which they have addressed and are addressing, and the recommendations they may have for the co-locating on PSTOC's operations floor.

b. Management Coordination

Management coordination opportunities examine multi-agency management issues that span two or more agencies or affect the PSTOC in its entirety. While

[5] Evan Jayson from the DPSC was working on crafting this recommendation.

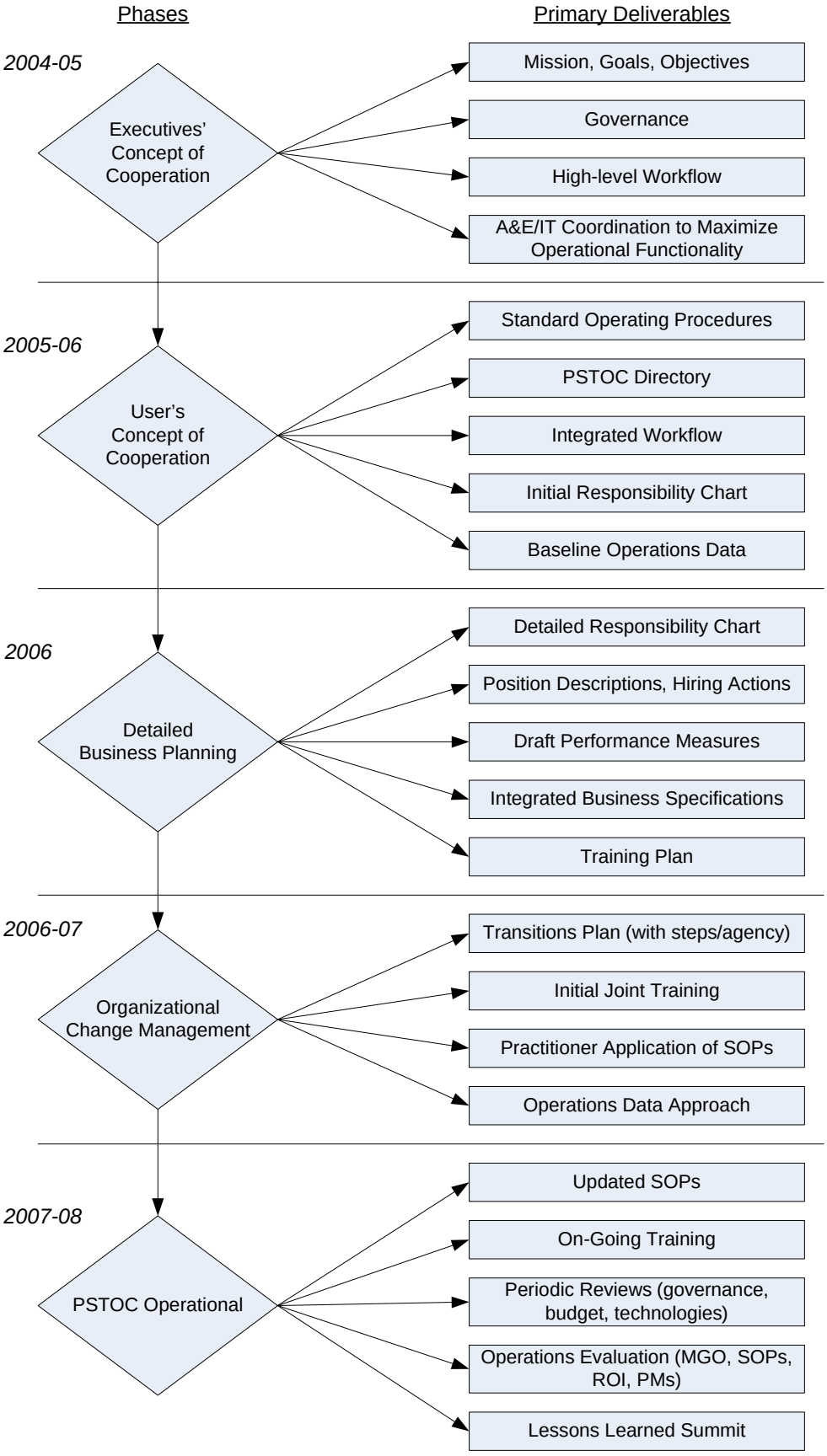
representatives from each agency should be involved in addressing these issues, the lead entity should in many cases be the PSTOC General Manager (GM) or the Master Planning Leadership Team (MPLT).

Figure 6 outlines many of the operations development and implementation activities in a rough chronology. [Appendix C-84 further details the operation project phases and primary deliverables outlined in Figure 6.] A large number of these activities will fall under the management's responsibilities. Details of many of these activities are still open (see Table 9) and discussed in this section. A smaller number of the operations activities outlined in Figure 6 have elements that cross operations, management, and other responsibilities. These activities are listed in Table 10 and discussed in Section 5c on cross-cutting opportunities.

TABLE 9: OPEN ISSUES: MANAGEMENT COORDINATION

Open Issues	Lead Entity
1) Best Practices	
a) Develop benchmarks and perform a comparative analysis	PSTOC GM
b) Research and integrate best practices	PSTOC GM
c) Create a peer "support" network	PSTOC GM
2) Governance, Decision Making and Conflict Resolution	
a) Integrate the Concept of Cooperation and the Joint Operations Agreement	MPLT
b) Prepare for conflict resolution	Operating Board
c) Make decisions on overlapping interests not defined in the Master Development Agreement (MDA) between County and Commonwealth	MPLT
3) Shared Positions	
a) Define the General Manager's relationship with participating agencies	MPLT
b) Create support for the General Manager position	MPLT
c) Ensure that the PIO position is approved	MPLT
d) Identify other centerwide support positions	MPLT
e) Draft organizational and responsibility charts.	MPLT

Figure 6: Operations Project Phases



1) *Best Practices*

The partner agencies have yet to take full advantage of lessons learned from joint operation centers in other parts of the country. By tapping this knowledge base, PSTOC partner agencies can avoid many pitfalls and start many of Center's management practices on a solid foundation. In particular, they should:

a. **Develop benchmarks for high priority management tasks and perform a comparative analysis.** Research, document, and summarize best practices in comparable centers nationally for management tasks of highest priority. Benchmark the management performance of the PSTOC agencies relative to comparable centers. Design and implement a framework for evaluating PSTOC management performance using industry-standard tools (e.g., "balanced scorecard").

b. **Research and integrate best practices from similar centers nationwide**. Arrange information exchanges to expose partner agencies to industry best practices and to accelerate adoption of these practices by and into PSTOC management. Information exchanges need to be very focused and include relevant stakeholders . Information exchanges can take place conference calls or video, or ideally, in-person.

c. **Create a peer "support" network.** Create a network of peers and information sources (e.g., websites, professional meetings) from which PSTOC managers and staff can draw knowledge and expertise. Peers in this network can share reports and information on what is working well and what is not. The network can provide a forum for peers to solicit advice as needed. It can be new or represent greater involvement by PSTOC management with existing operations center networks, such as the I-95 Corridor Coalition (http://www.i95coalition.org) or the National Transportation Operations Consortium (http://www.ntoctalks.com/index.php).

2) *Governance, Decision-Making and Conflict Resolution*

The PSTOC Administration User Group made significant headway on governance issues relating to how partner agencies will manage and address issues that span multiple organizations. However, more specific work still needs to be done to ensure a smoother transition into a co-located, multi-agency environment.

a) **Use the Concept of Cooperation to support and complement the Joint Operations Agreement.** Agencies should compare this and updated versions of the Concept of Cooperation to the Joint Operations Agreement and determine where the documents can complement each other. Where

possible, the documents should cross-reference each other for consistency. Marrying these documents will help ensure that partner agencies identify and resolve inconsistencies as soon as necessary.

b) **Prepare for conflict resolution.** Once the PSTOC opens, unanticipated conflicts among the agencies will arise. In line with the recommendation from the Administration User Group, the GM will work with the Operating Board to resolve interagency issues. However, some critical issues may need to be raised to the Governing Board. Criteria for escalating issues to the Governing Board should be established and followed. Anticipating the types of issues in advance of opening day will better prepare all agencies for conflict resolution. .

c) **Make decisions in terms of overlapping interests not defined in the MDA, such as finance.** Once the MDA is finalized, agency representatives should determine what overlapping interests remain among agencies. The agencies should then discuss how who should address these interests, and when. After a time, useful patterns in conflict resolution may become visible and warrant being codified.

3) ***Shared Positions***

Some of OCC user groups made significant headway on issues relating to shared or Center-wide positions. However, additional work should be done to ensure that the appropriate positions are described, supported, and in place. In particular, this should include:

a) Validate the General Manager's roles, responsibilities, authorities, and boundaries with participating agencies, as outlined in the draft position description for the General Manager (see Appendix D, page D-27). This position description states that the GM,:

- "Works with the operating board to resolve interdepartmental and interagency issues,"
- "Works directly with the Operating Board to resolve interdepartmental/intra-agency issues regarding the inter-local/Joint Operations agreement," and
- "Maintains and improves upon key relationships with the participating agencies by handling a variety of agency concerns and providing recommendations for resolution." Partner agencies should determine the GM's roles, responsibilities, authorities, and boundaries as specifically as possible.

By establishing these parameters in advance of opening day, the GM will be able to work more effectively with each of the agencies and mediate any issues that arise between or among agencies.

b) **Create support for and fund the General Manager position so that it can be filled as soon as possible.** Agency representatives should agree on how the GM position will be funded and codify this agreement in the JOA or MDA. Likewise, agency representatives should determine what – if any – support staff (see issue 3d below) will work with the GM and how the position(s) will be funded. Resolution of this issue should also be codified in the JOA or MDA. Agency representatives also need to craft position descriptions for any necessary support staff.

c) **Ensure that the PIO position is approved and funded as proposed.** The Information Sharing User Group recommended for how the PIO position could be funded as a shared position with the DPSC and what its role would be in the PSTOC (see Appendix D, page D-193). The agencies, especially the DPSC, should ensure that this position is created as proposed. A team of agency representatives, headed by the DPSC, should design a position description for the PIO. Additionally, the PIO's role in the PSTOC should be codified in the JOA or MDA. There should be explicitly defined boundaries between the GM's and the PIO's responsibilities.

d) **Determine what other Center-wide support positions need to be defined and moved into the hiring track.** Agency representatives should meet soon and then periodically to determine what support positions need to be defined and moved into the hiring track, provided that funding for these positions is likely to be or already is programmed. This group should also create position descriptions for any support staff deemed necessary. An updated staff directory (Appendix E, page E-5) could be used to help perform a gap analysis to identify additional Center-wide support positions.

   Possible staff additions include a facilities manager and administrative support staff. Having administrative support staff for the center will allow the GM to concentrate more on the management items outlined in the position description (Appendix D, page D-27) and less on necessary but tedious tasks such as making copies, answering phones and scheduling meetings.

e) **Draft detailed organizational and responsibility charts.** Based on some of the decisions above, a group of agency representatives should draft detailed organizational and responsibility charts. These charts can be linked with the staff directory (Appendix E, page E-5) to help agency managers perform a gap analysis to identify potential and additional support positions.

c. Cross-Cutting

This section outlines issues and opportunities that cut across the entire PSTOC, whether or not they touch on either management coordination or operations floor. Table 10 outlines the primary categories and associated actions with proposed leaders.

TABLE 10: OPEN ISSUES: CROSS-CUTTING	
Open Issues	**Lead Entity**
1) Goals and Objectives	
a) Create unifying PSTOC brand	PSTOC PIO
b) Plan for M-G-O achievement	DPSC
c) Identify baseline operations data	DPSC
d) Collect data and analyze performance	DPSC
e) Develop records management policies	PTSOC IS Manager
2) Training	
a) Identify staff to be trained	PSTOC HR Manager
b) Develop training plan	Lead Trainer
c) Initiate training	Lead Trainer
3) Transition of Systems and Operations	
a) Prioritize list of systems	PTSOC IS Manager
b) Prioritize list of PSTOC functions, agencies, and staff	PSTOC HR Manager
c) Develop full Transition Plan	PSTOC GM
d) Coordinate actual move-in and PSTOC start-up	PSTOC GM
4) Linking Operations and Planning	
a) Plan for systems coordination with regional entities	VDOT STC Manager
b) Plan for operational coordination with regional entities	VDOT STC Manager
c) Apply data collected and performance measures to plans	VDOT STC Manager
d) Incorporate VDOT statewide efforts to benefit all PSTOC agencies	VDOT STC Manager
e) Conduct Periodic Reviews / Operations Evaluations	PSTOC GM
f) Understand financial resources	PSTOC Business Manager

TABLE 10: OPEN ISSUES: CROSS-CUTTING	
Open Issues	**Lead Entity**
5) Scope of Use and ConCoop Management	
a) Test SOPs by practitioners	PSTOC GM
b) Codify SOPs	PSTOC GM
c) Revise SOPs	PSTOC GM
d) Validate ConCoop	PSTOC GM
e) Revise ConCoop	PSTOC GM
f) Develop Change Management Plan	PSTOC GM
g) Hold workforce simulations	PSTOC GM

1) Implement PSTOC goals and objectives

The Mission-Goals-Objectives (M-G-O) document is the strategic framework for understanding the PSTOC. It details the PSTOC's purpose and desired outcomes from the planning for and operations within the multi-agency building. Since this document is dynamic, it should incorporate on-going reviews of gaps between intended and actual progress. A number of opportunities are available to ensure that the PSTOC mission, goals, and objectives are being monitored and achieved, including:

a) Create a unifying PSTOC brand to expand on the goal of a cooperative and effective operating center. Managers from similar operations centers throughout the country state that any type of unifying identity will help to advertise the existence and purpose of a center and aid in building camaraderie among staff. A brand can be developed in various ways and includes a center logo, similar phone numbers, document letterhead and appearance. The PSTOC general manager, PIO, or a marketing committee should lead this activity.

b) Create performance measures to gauge the impact of the opening of the PSTOC on the region. This is a time-critical action, since baseline data must be gathered before PSTOC activation in order to allow valid comparisons of pre- and post-Center operation. Given the political pressure and media attention that the PSTOC has attracted to date, the agencies may want to devise tangible ways to illustrate the benefits of being co-located in a new, multi-million dollar facility. To do this, agencies must first identify what needs measuring. Participants involved in this planning step can consider both quantitative and qualitative measures that can map back to the PSTOC's objectives. This endeavor needs to include developing a prioritized list of easy-to-understand performance measures. Participants should also tap the experiences of

other centers to provide guidance on the best methods to create useful performance measures.

c) **Identify baseline operations data that can be applied to the PSTOC objectives.** This is a full assessment of what data are being used to document the current performances of "separate" agencies, departments, and functions and realistically, what other data could be used. Public safety and transportation managers, as well as field staff, should be consulted regarding available, useful data. This effort entails looking at the previous performance measure planning work (item #2 above) in determining how to measure objectives. The partner agencies should then apply their current counts to establish the baseline data. The data will be the comparative point of reference once the PSTOC is operational. This step would need to be taken immediately after the planning activity and before the Center becomes operational.

d) **Agree on a process and responsibility for gathering performance data on a regular basis and analyzing data to compare current and historic (baseline) conditions.** By doing this, agencies will be able to demonstrate impacts the PSTOC has on such things as response times to the scene of an incident, responsiveness to calls in the queue, and, perhaps, overall customer satisfaction. It will take time to initiate the collection and application of this support data fully. Previous performance measure tasks (described in items a and b above) should make clear the best method to track outputs and results related to PSTOC management and operations. In addition, baseline data should already be on file when this long-term data collection and analysis phase is initiated. A by-product of this initiative is accurate information to key decision makers to account for accomplishments, progress, shortfalls, and gaps in meeting the PSTOC goals and objectives. The data collected and information applied need to become an integral part of the PSTOC's annual reports.

e) **Develop records management protocols for archiving and sharing data that feed into performance measures.** PSTOC partners widely agree that the next generation CAD system being created for the PSTOC will greatly enhance data sharing. As part of this system development process, key technologists should examine how to coordinate the records management system and improve the storage and retrieval systems for all the additional data that will be generated by the multiple agencies. The management of data, information, and documents should all be included within a Communications Plan. The discussion surrounding records management should incorporate IT staffs and PSTOC operations managers, who can answer a number of questions by examining examples of how peers in other multi-agency operations centers have managed data. Questions include:

- Will the historic information be presented in a consistent format? What are the legal mandates for data storage?
- Who has the authority to retrieve this information?
- To what extent must records be separate and made available only to authorized parties (data system security)?
- How will data clearance levels be determined?

Providing an acceptable storage and retrieval process will greatly aid the work performed by operations, administrative, and planning staffs.

2) *Training*

With new systems being developed for the PSTOC and each agency also bringing over their own technologies and operating procedures, it is important to orient the PSTOC staff to these foreign systems and processes. Operation center managers from around the country have advised the PSTOC staff not to forget the extensive amount of training needed, nor to delay training until the Center opens. This training opportunity is divided into three critical activities: 1) establishing who will conduct the training, 2) determining who should be trained and at what level, 3) scheduling and conducting actual training.

a) **Identify collectively the PSTOC training staff.** It is important to ascertain ***who*** before ***how***, in order to target resources efficiently. Planning for training and actual training implementation is simplified if the training team can be selected early. A designated training team should also be able to maximize their efforts better and take some responsibilities off the PSTOC administration and operations managers so their focus can be on their core business functions.

b) **Develop a training plan to ensure that appropriate PSTOC staffs are trained on new or integrated systems and processes.** Initial discussions regarding combined or stratified training regarding these new systems (as well as other on-going training for PSTOC staff) only recently began among the partner agencies. This activity will include the examination of existing agency and training plans. What cross-agency training modules are now in place? What new modules could help? The training plan will also focus on more than just what courses are necessary. The plan will look at available training space, , equipment and personnel, both before and after the PSTOC opening. It will incorporate the center's on-line room reservations system. The plan will describe how key staff can be trained on new or different systems and operational processes prior to PSTOC opening. Effective training will expand the operations floor personnel's

knowledge of what processes occur in the field and the processes of their peers from partner agencies.

c) **Initiate, through a designated training team, both the long-term training process and oversight of the actual implementation of training plan.** The training team should coordinate the training schedule with other PSTOC activities. Because it is imperative that the initial training not wait until the PSTOC is operational, the PSTOC partners should likewise dedicate staff time for training and orientation. The various training needed will focus on new equipment and processes, for all new staff and refresher training. The entire training proceedings should be documented, lessons learned applied and areas identified for improvement.

3) Transition of Systems and Operations

Movement of systems, equipment and operations from their existing sites (VDOT STC in Arlington, VSP Division 7 Call Center in Fairfax Station, Fairfax County 9-1-1 Call Center in Annandale, and the Alternate EOC at the Fairfax County Government Center) to the single location PSTOC building cannot be done without extensive planning and coordination. Coordination is required among the architecture/engineering team (overseeing the construction of the center), the information technology group (overseeing the selection, procurement, and installation of the many communications systems), and the operations staffs (principal parties using PSTOC space). To minimize implementation difficulties, a review of all systems, personnel, and center functions must be conducted and a measured transition for these various components developed. Steps that still need to be taken for this orderly transition include:

a) **Create a mechanism for PSTOC agencies and the IT group to work together to decide about the order for installing and placing communications systems on-line.** PSTOC partners have already provided a list of legacy, new, or planned systems that they hope to install in the new center. However, the A & E team and the IT group need to set priorities among these systems so they can gauge construction and wiring phasing requirements for the new building and migration strategies from the systems in the old centers to the systems in the PSTOC.

b) **Create a mechanism for PSTOC agencies and their respective human resources departments to finalize a sequenced list of staff to move into in the PSTOC, together with their appropriate responsibilities.** The DPSC Change Team, OEM, VDOT, and VSP have already developed a draft list of positions needed at the PSTOC. This list has been compared with positions currently filled and a staffing gap list created. As with the

prioritization of systems, the PSTOC partners need to determine the order that functions and agencies are to move into the PSTOC. Obviously, VDOT, VSP and DPSC cannot all move into the operations floor at the same time. Likewise, relocation of staff also impacts the construction and communications schedules and staff training. Most important, an orderly move-in will enable the basic call-taking and dispatching functions to continue unabated without endangering public safety.

c) **Develop a complete Transition Plan that lays out all activities necessary for an efficient movement from the dispersed locations to the single PSTOC site.** This plan should identify a single responsible point-of-contact for each major activity. The prioritized lists of systems, functions, and staff should be consolidated to make transition timeframes clear to those relocating. Any scheduling conflicts can be resolved during the development of this plan. The compilation of the Transition Plan will require interviews with partner agency managers and staff regarding transition needs and issues. It is key to have the A/E team and IT group heavily involved because these entities must ensure they have adequate time to prepare for the operational functions within the PSTOC. A detailed Transition Plan could incorporate staffing requirements, hiring actions to ensure that staff is available when the center becomes operational, training schedules and resolution of any related issues, and even listing and allocating financial responsibilities related to transitioning into the PSTOC, including moving costs.

d) **Assign a single individual to coordinate the actual move-in by the agencies into the PSTOC.** It is likewise advisable for this same person to be assigned to oversee actual PSTOC start-up. This individual should have been involved in the development of the Transition Plan and can easily respond to a variety of questions related to operation and maintenance transition, as well as technology installation and system cutovers. Basic questions can include:
   - What will be moved in what order for what functions (furniture, equipment, staff, and technologies)?
   - When must each function be operational?
   - Is there some pressure to be moved out of the existing location or is the STC, DPSC 911 Center, AEOC adequate in case of delays?
   - Will there be any systems that will not be redundant and should be transitioned last?

4) ***Linking operations and planning***

Call center and dispatch operations managers have exhaustive workloads. These managers are so time-constrained it is difficult for them to coordinate

with long-term planning staffs or regional groups beyond an agency's jurisdiction. However, one of the goals for the PSTOC (#4) is to develop "improved working relationships among local and regional jurisdictions." This goal's objectives include cooperative planning and coordinated regional strategies. Therefore, it is important to tie the PSTOC operations to better planning and a greater regional vision among the agencies.

a) **Examine how PSTOC communication systems can be coordinated with other regional systems.** CapWIN and CapCom are current regional efforts to examine how to improve emergency communication throughout the metropolitan Washington, D.C. region. VDOT is heavily involved in this effort, as well as the Northern Virginia communications and systems (ITS) architecture, but an expanded role by the PSTOC will require wider representation by the PSTOC administration and managers.

b) **Plan for operational coordination between the PSTOC and regional entities.** The PSTOC development has not yet been a regional effort. Most work has been among existing PSTOC partners. The PSTOC agencies must determine what aspects of Center activities can be enhanced through regional coordination and how to do that. A number of the individual partners regularly coordinate with external agencies, such as the OEM contact with a multitude of other agencies for emergency preparation. Questions that remain are:
   - How would the fact that these multiple agencies and functions are now operated and directed from a single center modify or improve regional coordination?
   - How will the PSTOC representatives handle operational coordination with the Metropolitan Washington Council Of Governments, the Maryland DOT, the District of Columbia DOT, the Washington Metropolitan Area Transit Authority, the Virginia Railway Express, and other neighboring counties?

c) **Determine how best to apply data to local and regional planning for public safety, emergency management, and transportation services.** As a result of the new and expanded systems that will become available to the PSTOC staff, a much greater volume of data will be generated. The PSTOC representatives should coordinate with various planning staffs to see how they can best utilize the new data and information to be gathered. One application would be to use the information to support and direct the development of new policies.

d) **Understand the wide range of activities from entities outside the region that may impact PSTOC operations.** The VDOT currently has a number of statewide efforts that may provide benefits to all PSTOC agencies if they are aware of these activities and can plan for them. One example is

the link between the Northern Virginia STC and the Hampton Roads STC that can provide additional information for the OEM in the case of a major mid-Atlantic emergency (e.g., a category 4 or 5 hurricane).

e) **Develop processes for periodic reviews of PSTOC's many functions, including formalized operations and post-incidents evaluations.** The most effective processes are those that are self-reflective and flexible enough to be adapted to practitioners' feedback. Development of a Center-feedback forum will allow PSTOC policies and procedures to be modified as needed. It will also allow the creation of a system where national best practices for management of multi-agency operations centers can be assessed and applied. As part of this activity, PSTOC partners could create a cross-agency "Review Management Team" that develops consistent efficient and effective review and evaluation procedures. Periodic reviews can cover any number of issues, such as governance, budgets, technologies, SOPs and performance measures, but they all must include a structure that examines how the subject matter has been used during that period to accomplish the PSTOC goals and objectives. This team could even branch out to conduct formalized reviews of the Mission-Goals-Objectives document itself. Formal evaluations can be seen as a pro-active response to policy makers and agency administrators. All of these evaluations should feed into a PSTOC Annual Report and the findings should also be applied to planning for better operations.

f) **Design and implement ways for upper management to assist mid-management and supervisory staffs in understanding the funding sources and requirements for all the financial resources that will be available to the PSTOC.** A basic understanding of the financial resources by those who carry out the day-to-day activities may enhance center operations connections with long-range planning activities. These discussions should occur after the initial inter-agency agreements (MDA, etc.) are signed. A basic understanding of what capital and operating funds are available from each partner agency may also invite creativity from managers regarding how best to fund various Center functions, especially those joint (cross-agency) functions.

5) Scope of Use, Implications of ConCoop

The Concept of Cooperation is a dynamic document covering a wide range of cross-operations issues, such as standard operating procedures, staffing plans, and the systems to be deployed. As such, it is designed to be a reference document that provides some directional focus and is modified as necessary. Partner agencies need to agree on how to modify components of

the ConCoop well before any changes are necessary, and be supported by the following actions:

a) **Test the Standard Operating Procedures (SOPs) with PSTOC practitioners before formally instituting them.** A number of SOPs have been developed prior to the opening of the PSTOC. These SOPs cover a number of overlapping activities that include common management, common space, shared technologies, shared data and information. The practitioners responsible for testing the procedures during simulated scenarios should be selected from draft PSTOC staffing lists to ensure that those who actually have to follow the procedures also provide feedback. After the test runs, any proposed modifications to the SOPs should be compiled and brought to the MPLT for formal acceptance.

b) **Ensure that the Standard Operating Procedures are binding.** Currently, the SOPs are only guidelines and are not binding. The Operating or Governing Board or subsequent governing bodies should ensure that the SOPs are binding and enforceable. Compiling signatures on the cover of each SOP may be the best way to ensure that they become binding and are not subject to staff's individually selecting what guidance to follow and what guidance to ignore.

c) **Develop procedures to receive periodic feedback on the existing Standard Operating Procedures and the opportunity to recommend any new SOPs.** Because SOPs need to be dynamic, adjustments made in conformance with any consensus process should be made as needed. When any SOP is revised, the impact to the overall ConCoop should likewise be assessed. New SOP topics may include what to do in the event of system failures, more specific call-taking and call-transferring guidance, and operations floor personnel behavior and norms.

d) **Validate the full version of the PSTOC Concept of Cooperation. The** partner agencies should hold a forum with PSTOC stakeholders at the working- and first-line-supervisory level to validate the Concept of Cooperation. The group could be separated into two sessions or teams, the first more focused on general management issues and the distribution of costs associated with its operation and the second more on the opinions of those who will likely carry out day-to-day work of the center's components. The agency supervisors should also highlight any changes in their agencies' practices that need to be in line with the Concept of Cooperation. Results will indicate the primary areas of focus for a change management plan.

e) **Develop guidance for the periodic feedback on and review of the full PSTOC Concept of Cooperation as well as procedures for modifying its contents.** Modifications will be necessary when key players, agencies,

systems, and functions are added or removed. Adding sections, such as a long-term vision for the PSTOC, may modify it.

f) **Develop a Change Management Plan.** Using the Concept of Cooperation as a starting point, representatives from the partner agencies should draft a Change Management Plan. This plan should be designed so that those responsible for participating agencies' business processes, workflow, standards, interoperability of technologies, and roles and responsibilities, as well as decision-making authorities, understand the implications and benefits of co-location and can undertake appropriate actions to ease the transition to new ways of doing business. Specifically, this plan should:

- identify and describe the gap between current conditions (with each agency operating in a separate location) and expected conditions (with each agency operating in a shared location);
- describe the implications for the affected managers and staff expected to work in the new facility and others whose work will be significantly affected, though residing in other facilities;
- identify and describe expected changes in business practices or policies that will need to be negotiated before move-in, both among agencies and within agencies; and
- identify opportunities for efficiencies (such as fewer resources needed) or increased effectiveness (such as improved performance indicators) in conducting business in the PSTOC.

g) **Design and hold workforce simulations of selected operations situations.** The partner agencies should design and run simulations of operational situations most likely to illustrate actual responses once the PSTOC is open, focused on those activities in which two or more agencies need to be involved. The scenarios outlined in Section 4 of the ConCoop could be a starting point for designing the simulations. The agencies should be sure to involve and coordinate with activities and working groups from A&E and IT. The results of the simulations should be measured against the desired improvements from co-location as outlined in the PSTOC Mission-Goals-Objectives document.

6. Closing – Critical Action Items

Many action items were highlighted in Section 5 (***Opportunities and Actions***), many of which are critical-path and time-sensitive to fulfilling the PSTOC's Goals and Objectives. The highest priority activities include:

1) Finalize PSTOC equipment and systems (CCTV monitors, CAD system) to enable operations staff to understand operational limitations and enhancements and apply these specifications to any relevant SOPs. This needs to include the agreement of how these systems will be coordinated and shared.

2) Create a joint-agency call-taking scenario session to test draft SOPs and provide the opportunity to highlight additional procedures needed for efficient and effective call-taking among the PSTOC partner agencies.

3) Formally adopt draft SOPs and provide procedure for the development of future SOPs by the PSTOC partner agencies.

4) Finalize a PSTOC management structure. The governance structure should include the roles and responsibilities for a PSTOC General Manager. The GM should be hired no later than 12 months prior to the PSTOC opening so the individual can assume responsibilities for a wide variety of cross-cutting center development needs, including the hiring of additional PSTOC support staff.

5) Collect and document baseline data and identify appropriate performance measures tied to the Mission-Goals-Objectives document.

Adjunct priority actions include the development of a Transition Plan, a Change Management Plan, and a Joint Training Plan.

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- PSTOC Directory (August 2005)
  - Overview Presentation
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8. References

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