Washington
Statewide Communications
Interoperability Plan

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Executive Overview

The ultimate purpose of the Washington Statewide Communications Interoperability Plan (SCIP) is to establish a future vision for communications interoperability and align emergency response agencies with that vision by creating goals, objectives, and initiatives that achieve improved public safety communications.

The Washington SCIP serves as a common reference for all stakeholders to use as a current source of information about the status of statewide communications interoperability. The process employed to produce this plan followed a bottom-up approach that sought out the input and advice of the state's first responder and emergency response communities.

It is the intent of the statewide strategic planning effort to provide an ongoing opportunity for all local, tribal, federal, and non-governmental public safety and emergency responder agencies to share their communications needs, discuss mutual solutions, share successful implementations, and collaborate. Subsequent versions of the Washington SCIP will set new objectives, implement interoperability solutions, and measure progress toward achievement of a highly efficient and cost effective means of statewide interoperability.

The Washington SCIP is written to address the criteria[1] for interoperability plans established by the U.S. Department of Homeland Security (DHS), Office of Interoperability and Compatibility (OIC) SAFECOM, and Disaster Management (DM) programs. The DHS criteria questions help to define an actionable way forward for the emergency response community and their leadership to improve public safety response through achievement of a high degree of interoperability. This SCIP format is conceived and written specifically to answer these criteria questions with the intent of receiving a passing score and approval from DHS.

The SAFECOM criteria aided the strategic planning process by providing clear and concise metrics by which to assess the level of statewide interoperability. This assessment is the foundation for the recommended technology and process actions addressed in this plan.

Please refer to Section 8 – SAFECOM SCIP Criteria for the location of the specific answers to the criteria required in this plan.

The SAFECOM and DM programs recommend the use of the Communications Interoperability Continuum (Continuum) as a tool to help the emergency response

[1] Recommended Federal Grant Guidance for Emergency Response Communications and Interoperability Grants for Fiscal Year 2007, http://www.safecomprogram.gov/NR/rdonlyres/B24B992A-AF65-4EBC-BC19-321F64002D74/0/FY07SAFECOMGrantGuidanceFINAL.pdf

community and policy makers measure, analyze and address critical elements required for success as they plan and implement their short and long term interoperability initiatives. The Washington SCIP is based upon this SAFECOM methodology. The Continuum depicts the core facets of interoperability according to the stated needs and challenges of the emergency response community. The *elements* of interoperability defined in the Continuum include governance, standard operating procedures (SOPs), technology, training and exercises, and usage.

The State Interoperability Executive Committee (SIEC) assesses Washington statewide communications and interoperability environment as follows:

Governance: Moderately high. The SIEC and the Homeland Security Infrastructure provides a high degree of coordination and training opportunities. However, the state of Washington lacks regional interoperability committees or effective processes for local jurisdictions to work with the SIEC for improvement and advancement of interoperability through use of technology.

Standard Operating Procedures (SOPs): Moderate, although disadvantaged by a lack of widely available mobile technology. The state of Washington adopted the federally mandate National Incident Management System (NIMS) and established processes for compliance training at both state and local levels. Emergency Operations Centers across the state utilize information technologies to manage incidents, however many first responders and emergency response personnel located outside of the major metropolitan areas lack the mobile data capability necessary to access the information systems at the incident scene.

Technology: Moderately Low. SOPs facilitate adequate use of the old technology, however the cross patching of channels, sharing of radio caches, and a vast array of radio communication means makes the use of the various systems cumbersome, complicated, inefficient to manage, and costly to maintain. The lack of modern, integrated land mobile radio technology and widely available mobile data systems prevent access to the important incident management information systems and common operational pictures.

Training and Exercises: High. Washington conducts regular comprehensive regional training and exercises that are inclusive of interstate and international participation. These exercises prepare the state to respond to a wide variety of emergency situations varying in scale from local response to that requiring assistance from or providing assistance to outside jurisdictions, other states, the federal government, and Canada. However, the entire state will benefit from added emphasis on locally driven training opportunities and development of national standards for Communications Unit Leader (COML) certification courses.

Usage: Moderately Low. Although disadvantaged by inefficient and outdated technology, interoperable systems use varies widely throughout the state's various jurisdictions. Some users are more familiar than others with use of interoperable

systems. Local leadership emphasis on frequent use, SOPs, and training are needed to increase familiarization with interoperable systems.

The Washington SCIP sustains the momentum of the SIEC strategic planning efforts by establishing a venue that expands local and regional participation in the statewide planning process. It identifies interoperability gaps and outlines ongoing public safety communications implementation efforts to bridge those gaps in the short, mid, and long term. It synchronizes stakeholder efforts for building support, developing funding sources, and deploying Public Safety Wireless Networks across the state.

Through local participation, the SIEC ensures the strategic planning process incorporates past interoperability successes and shares that knowledge across jurisdictions. Collaboration and combined local and state efforts are the keys to development and deployment of the required public safety communications networks. This requirement is for adequate interoperable communications that enhance the survivability and protection of the state's emergency responders and their communities during periods of calm and catastrophe.

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1. Introduction

The Washington Statewide Communications Interoperability Plan (SCIP) is the result of a collaborative effort to synchronize the strategic planning of local, tribal, non-governmental, state, and federal government public safety agencies.

This plan will aid all stakeholders with improvement of their public safety communications systems. Through this effort the safety of emergency responders will also improve as will their ability to support their communities.

A stakeholder, as defined in this in this SCIP, is any person, organization, entity jurisdiction, or government, private or public, with an interest in or is affected by public safety actions or activities. This includes, but is not limited to, the public at large, first responders, emergency response personnel and managers, city, county, tribal, state, and federal elected officials as well as non-governmental organizations.

This plan serves as a common reference for all stakeholders to use as a current source of information when discussing, internally and externally, the status of statewide interoperability efforts.

Interoperability, Communications Interoperability, and Wireless Communications Interoperability are often used interchangeably during discussions about public safety wireless networks. The following definitions are established to set the reference for the remainder of the Washington SCIP.

> **Communications:** Process of transmission of information through verbal, written, or symbolic means.
>
> **Communications Interoperability**[2] (SAFECOM definition): In general, interoperability refers to the ability of emergency responders to work seamlessly with other systems or products without any special effort.
>
> **Interoperability**[3]**:** The ability of emergency management/response personnel to interact and work well together. In the context of technology, interoperability is also defined as the emergency communications system that should be the same or linked to the same system that the jurisdiction uses for non-emergency procedures, and should effectively interface with national standards as they are developed. The system should allow the sharing of data with other jurisdictions and levels of government during planning and deployment.
>
> **Wireless Communications Interoperability:** The ability of emergency response officials to share information via voice and

[2] http://www.safecomprogram.gov/SAFECOM/interoperability/default.htm
[3] National Response Framework, http://www.fema.gov/emergency/nrf/glossary.htm#I

data signals on demand, in real time, when needed, and as authorized.

It is the intent of the statewide strategic planning effort to provide an ongoing opportunity for all local, tribal, federal, and non-governmental public safety and emergency response agencies to share their communications needs, discuss mutual solutions, share successful implementations, and collaborate across all levels.

Additionally, the Section I.C.5 of the Department of Homeland Security FY 2006 Homeland Security Grant Program (HSGP) requires all states and territories to produce a SCIP by December of 2007.

The Washington SCIP is nested with the Washington Statewide Homeland Security Strategic Plan 2006-2011[4] and is the action plan that executes the responsibilities of the State Interoperability Executive Committee (SIEC)[5].

It sustains the momentum of the SIEC's strategic planning efforts by establishing a venue for local and regional participation in the statewide planning process.

It communicates ongoing public safety communications implementation efforts in the short and mid term, while simultaneously seeking to synchronize stakeholder efforts for building support, developing funding sources, and deploying public safety wireless communications networks across all levels of government.

The SIEC provides the charter, leadership, and authority to sustain the Washington's strategic planning momentum. Through a detailed outreach program and local participation, the SIEC ensures the Washington SCIP strategic planning process incorporates past interoperability successes and shares that knowledge across state's jurisdictions.

It is also the intent of the statewide strategic planning effort to provide an opportunity for all local, tribal, federal, and non-governmental public safety and initial responder agencies to share in the benefits of any future public safety wireless communications networks built by the state government.

Collaboration and combined effort are the keys to development and deployment of future public safety wireless communications networks that are necessary for the safety of the Washington's emergency responders and their communities.

The stakeholders of this plan are the state's public safety providers that share the responsibility for ensuring statewide public safety. Appendix D – Points of Contact lists many of the stakeholders who participated in the original Technical Implementation Plan (TIP) planning process and those who did participate in the SCIP development process through work shops, collaboration, and outreach efforts.

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[4] http://www.emd.wa.gov/grants/documents/2006-2011-team-wa-hls-strategic-plan_000.pdf

[5] http://isb.wa.gov/committees/siec/index.aspx

2. Background

Interoperability is an essential capability within public safety communications systems, enabling personnel from two or more entities to interact with one another. It also allows the exchange of information according to a prescribed method to achieve predictable results.

Governing Body and Subcommittees:

In recognition of the inherent requirement for efficient and unified response by public safety officials to crisis and natural disasters, the state of Washington created the State Interoperability Executive Committee (SIEC). The SIEC was created by House Bill 1271 and signed into law on April 16, 2003. This legislation was codified into Revised Code of Washington (RCW) 43.105.330. Please refer to Section 4.1 Governance Structure for specific details.

This governance structure in no way infringes upon the responsibility of each jurisdiction and local agency to administer the governance structure for their respective wireless networks.

The SIEC and its subcommittees are listed in Appendix D Points of Contact.

The direct authority and jurisdiction of the SIEC as outlined in Section 4.1 Governance Structure is limited to state agencies. The SIEC relies upon the influence of the SIEC members, who represent the interests of the local jurisdictions, to foster collaboration and cooperation concerning creation and promulgation of wireless communications standards and best practices.

The SIEC is a governing body charged with the responsibility for managing how state public safety agencies use wireless communications to carry out their daily operations and coordinate responses during major events[6]. Local governments determine how this is done at local levels. The SIEC relies heavily upon the input from local stakeholders and is identifying strategies to more closely collaborate with local agencies on interoperability efforts. Please refer to Appendix F - Washington State Interoperability Executive Committee Outreach and Public Affairs Plan 2007/08 for more detail.

To facilitate this collaboration, the SIEC adopted a highly interactive planning strategy for technology based interoperability improvement that started with identifying state agency needs and requirements. The planning process included many opportunities for state, local, and federal agencies, tribal nations, and vendors to provide commentary, feedback, and direction on the interim work products. This was accomplished through a series of information collection sessions that included:

[6] Technical Implementation Plan (TIP), November 2005, pg 5. http://isb.wa.gov/committees/siec/publications.aspx

- Conducting regular SIEC meetings and SIEC Staff Advisory Work (SAW) Group meetings.
- Holding information gathering meetings in each of the nine homeland security regions of the state in 2004, 2005 and 2007. Attendees included local, non-governmental, state, tribal, and federal representatives.
- Discussing reviews of vendor responses to a request for information (RFI) process.
- Conducting briefings with individual SIEC members.
- Conducting a Statewide Communications Interoperability Plan (SCIP) Workshop on August 22, 2007. Attendees included local, non-governmental, state, tribal, SIEC members, local elected officials, and federal representatives.
- Attending various association meetings to gather input and to foster cooperation and collaboration regarding interoperability efforts. Groups contacted included: Association of Washington Cities, Washington Association of Counties, Washington Association of Sheriff's and Police Chiefs, 911 Advisory Committee, Washington Association of Fire Chiefs, Washington State Transit Association Security Council, and Washington State Emergency Management Association.

Past Interoperability Efforts:

In 2004, the SIEC under took a year long project to develop a comprehensive plan for designing and implementing a system solution designed to satisfy the voice and mobile data interoperability needs of the public safety agencies in the state of Washington. The resulting strategic plan, the Technical Implementation Plan (TIP), was the final deliverable of this project.

Initiated[7] in August 2004, this project produced six additional major deliverables that were the source information for developing the TIP:

1. High-Level Final Statewide Public Safety Communications Interoperability Plan, December of 2004
2. Statewide Interoperable Public Safety Radio Network – Request for Information, January of 2005.
3. Inventory of Public Safety Communications Systems Phase 2 Report, February of 2005
4. System Capabilities and User Needs Report, March of 2005.
5. Alternatives Report, May of 2005
6. System Architecture Report, August of 2005

These documents are available on the SIEC Web site at http://www.isb.wa.gov/committees/siec/publications.aspx

[7] Technical Implementation Plan (TIP), November 2005, pg 9-10. http://isb.wa.gov/committees/siec/publications.aspx

The TIP provides guidance for the state to move ahead with the development of a statewide interoperable public safety communications system. The proposed system will provide significant improvements in how state agencies communicate to meet the responsibilities of their day-to-day missions. The system will also provide state agencies with the added benefit of improvements to their interoperability with federal, local, non-governmental, and tribal public safety entities. This benefit is available to the federal, local, non-governmental, and tribal public safety entities as well.

The TIP provides a high-level strategy for planning the transition of the current state agency-based, public safety mobile radio systems to a standards-based, frequency-independent, and multiple subsystems technology architecture.

This multiple subsystems approach is of equal value to local jurisdictions as well, particularly when they seek cost effective partnerships that improve local coverage and interoperability. The Olympic Public Safety Communications Alliance Network (OPSCAN) serving the public safety communications needs of the local jurisdictions on the Olympic peninsula is a successful example of a locally driven interoperability project that partners with the state and federal governments to increase coverage and mutual aid.

The multiple subsystems architecture consists of the following key elements[8]:

- A Radio over Internet Protocol (RoIP)-based interoperability system that enables non-state agencies to interconnect their radio systems with the state system. RoIP also provides immediate improvements in the ability of existing state agency systems to interoperate. For the purposes of the SIEC's Technical Implementation Plan (TIP), radio over internet protocol (RoIP) refers to the use of internet protocol (IP) networks as the backbone to carry the base band audio voice over internet protocol (VoIP) traffic between radio base stations and console equipment. Today, IP networks can carry both voice and data for public safety purposes. Please refer to the definition of VoIP in Appendix B – Glossary.
- A statewide digital transport backbone system that provides connectivity to all transmitter locations. It also provides the interface to other state and federal networks for access to various applications and data that are available. Digital transport systems are all inclusive of bandwidth means necessary and appropriate for the architecture required to complete the multiple subsystems approach.
- A mutual-aid communications system deployed across the state to enable interoperability at and across the commonly-used public safety frequency bands; very high frequency (VHF) Low, VHF High, ultra high frequency (UHF), 700 MHz and 800 MHz. This allows those agencies that have not

[8] Technical Implementation Plan (TIP), November 2005, pg iii. http://isb.wa.gov/committees/siec/publications.aspx

yet implemented standards-based communications capabilities to communicate directly with state agencies and dispatch centers.

- A statewide, Project 25 (P25) standards-based, frequency-independent system of systems that uses equipment common to all agency-focused systems providing full interoperability. It provides connectivity and interoperability to all state agency participants, and federal, local, and tribal agencies that choose to participate in the system.
- A statewide mobile data system that provides *data* communications capabilities for participating agencies' subscribers.

The main building blocks of the multiple subsystems architecture are[9]:

- Radio frequency (RF) sites of high, medium, and low density
- Radio dispatch centers
- Radio network control centers/controllers
- Subscriber equipment
- Support infrastructure including the statewide microwave network

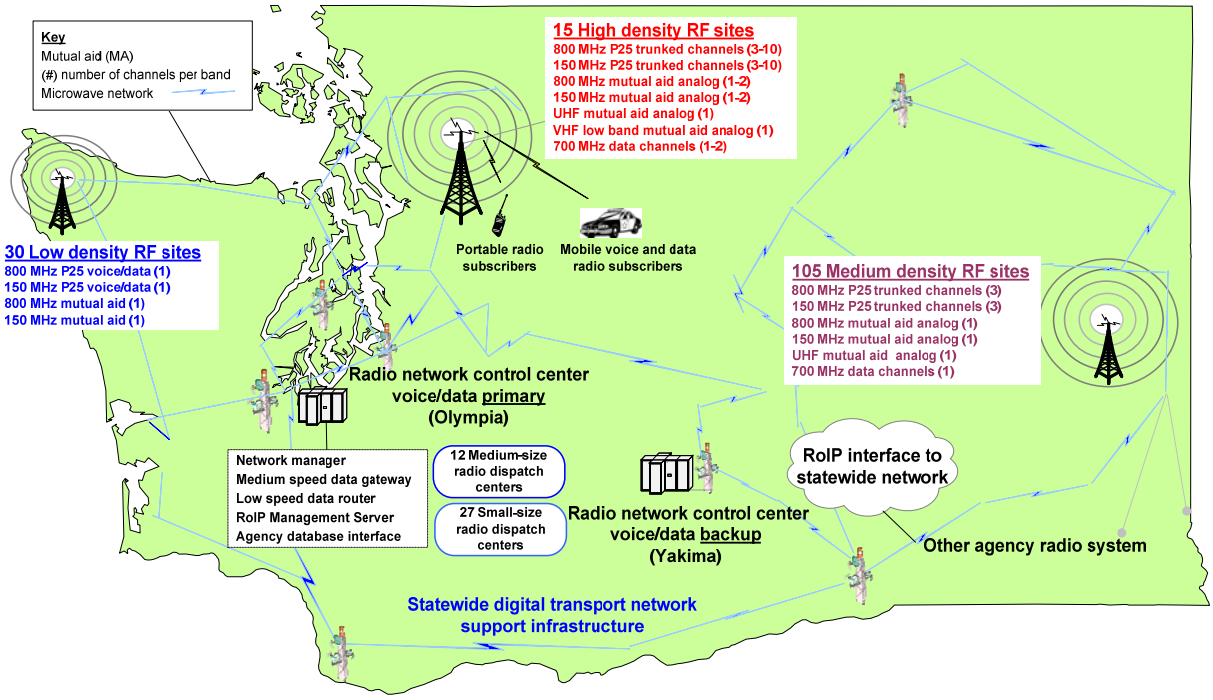


Figure 1 Building Block of the Multiple Subsystems Architecture

The SIEC encourages and supports the multiple subsystems architecture approach for use throughout the state at all levels of government. This can be a cost effective interface for disparate systems that improves interoperability in the

[9] Technical Implementation Plan (TIP), November 2005, pg 21. http://isb.wa.gov/committees/siec/publications.aspx

short and mid terms while jurisdictions transition to standards based, open systems architectures. Additionally, the multiple subsystems architecture approach represents a strategy to enable interoperability with communication systems that can utilize reallocated public safety spectrum for radio communications.

The state of Washington can expect some obvious tangible benefits from improvements in public safety communications as a result of deploying the proposed multiple subsystems architecture. These benefits will be most noticeable to end users who will experience the following improvements in voice and data radio communications:

- Statewide coverage enhancements for mutual aid
- Signal and voice quality improvements resulting from digital technology
- System functionality additions for mutual aid and mobile data
- Usability enhancements of the proposed system capabilities
- Interoperability with other state, federal, and local government agencies

Current Interoperability Efforts:

The SIEC continues the state's strategic planning momentum through the SCIP development process.

In addition to these past efforts, the SIEC led the SCIP development process through a formalized outreach program, regional meetings with local technical planning bodies and held a statewide SCIP workshop.

The benefits realized through collaborative planning and partnerships are minimized costs for labor and equipment and improved public safety.

The anticipated benefits[10] include that:

- We avoid potentially redundant costs by implementing shared systems between agencies that can consolidate fixed assets. This reduces the amount of unnecessary duplicated infrastructure, system management and operational expenses, including network connectivity, maintenance, leased lines fees, and land leasing fees.
- We increase productivity as a result of better coordination between first responders. This occurs with using a shared communications system that handles voice, data, and mutual-aid needs during day-to-day and major emergency situations.
- When we increase statewide functionality, we increase interoperability for all system users with wide area roaming and secure communications for voice and data channels.

[10] Technical Implementation Plan (TIP), November 2005, pg ix. http://isb.wa.gov/committees/siec/publications.aspx

All local, tribal, federal, and non-governmental public safety and initial responder agencies will have an opportunity to share in the benefits of any future state public safety radio system. The multiple subsystems architecture provides several options for tribal and non-governmental emergency response agencies to enhance basic operations while facilitating interoperability with the proposed system.

These options include access to:

- Future statewide standards-based frequency-independent radio system.
- Shared mutual aid channels.
- Radio over Internet Protocol (RoIP) gateway technology.
- Improve or advance the interoperability of public safety communications systems that utilize other public safety spectrum bands.

To further the SIEC's goals, the state of Washington and regional planning authorities implemented several interoperability initiatives designed to improve statewide communications.

SIEC Lead Agency 2006 Supplemental Budget Activities for Interoperability Initiatives:

The Washington State Patrol (WSP), acting as the Lead Agency for the SIEC's state interoperability initiatives, accomplished several milestones during the past year:

- Hired a SIEC Outreach and Public Affairs Coordinator.
- Completed functional testing of the Olympic Public Safety Communications Alliance Network (OPSCAN) project for technical assessment with regards to statewide Radio over Internet Protocol (RoIP) network development.
- Purchased four tactical RoIP gateway units.
- Conducted an engineering study for Whatcom County to establish a baseline for the 2010 Olympic Games and the SIEC Statewide Interoperability Project.

On Scene Command and Control Radio System (OSCCR) Phase 1:

WSP acting as Lead Agency for the SIEC, in concert with Washington State Department of Transportation (WSDOT) and Washington Military Department Emergency Management Division (EMD) established a statewide command and control network utilizing the pre-existing On Scene Command and Control Radio (OSCCR) mutual aid frequency of 156.135MHz. This network provides interoperability between on scene incident commanders, responding agencies, and state agencies that do not share a common radio system. The OSCCR Base Station Project built 13 Radio over Internet Protocol (RoIP) base stations in the drought-prone areas of the state. These base stations are monitored by the State Emergency Operations Center (EOC), WSP, and WSDOT.

Department of Justice Integrated Wireless Network (IWN) Deployment Project:

WSP is collaborating with the US Department of Justice (DOJ) for deployment of IWN in the state of Washington as part of a consolidated nationwide federal P25 trunked radio system. The expanded federal infrastructure will establish a redundant digital microwave ring throughout western Washington that will create additional bandwidth that may be made available to the state for interoperability initiatives. The integrated wireless network (IWN) addresses federal law enforcement requirements to communicate across agencies, allow interoperability with state and local law enforcement partners, and meet mandates to use federal radio frequency spectrum more efficiently. WSP is exploring a partnership opportunity with the DOJ to leverage and possibly expand the IWN investment to include federal, state, local, tribal and non-governmental users as part of state interoperability projects.

Olympic Public Safety Communications Alliance Network (OPSCAN):

The Olympic Public Safety Communications Alliance Network (OPSCAN) is a consortium of 42 public safety agencies working together to address the communications interoperability needs of the Olympic Peninsula jurisdictions. The network consists of a microwave backbone that extends around the peninsula, RoIP interoperability gateways and solutions as well as the policies, procedures, and training programs necessary to ensure proper functionality, operations and governance. The Department of Homeland Security has stated that this project is the best example of a “rural interoperability solution” in the United States. Other adjacent counties, cities, and transit agencies have requested connection to the OPSCAN system. OPSCAN is a viable short to midterm solution for interoperability.

The OPSCAN consortium plans a Phase II project that will pursue implementation of mobile data systems.

2010 Olympic Security Committee’s Communications Interoperability Work Group:

This Work Group is jointly chaired by the WSP and the Federal Bureau of Investigation. WSP, as the Lead Agency, is developing plans that support statewide interoperability efforts. Current activities include:

- Identification and development of radio communications that support voice and data interoperability for federal, state, local, and tribal organizations for the 2009 Police and Fire Games and 2010 Winter Olympics in Vancouver, British Columbia.
- Development of radio frequency management plans in support of security efforts conducted throughout international border area prior to the 2009 Police and Fire Games.

- Creation of a Tactical Interoperability Communication Plan (TICP) that identifies develops and documents existing standard operating procedures, mutual aid agreements, and channel agreements.
- Implementation of the first phase of the state's planned P25 compliant radio system in Homeland Security Region 1 to enhance interoperability between federal, state, local, non-governmental, and tribal public safety organizations.
- Exploring cross-border interoperable communications capability with the Canadian E-COMM 911 PSAP located in Vancouver, British Columbia.

Additional regional specific interoperability initiatives are underway.

Seattle Urban Area Security Initiative (UASI) Tri-County Region:

There are many different interoperability activities underway in the Seattle area. The Regional Technology Integration Initiative (RTII) led by the Department of Homeland Security and facilitated by the Department of the Navy's Space and Naval Warfare Systems Center – San Diego, California, is designed to identify technology gaps in the communications infrastructure for both voice and data communications. This initiative is applicable to Regional Homeland Security Coordination District (RHSCD) 5 (Pierce County), RHSCD 6 (King County), and part of RHSCD 1(Snohomish County), and will possibly lead to a deployable solution for the Tri-County region.

The Seattle Urban Area Security Initiative (UASI) Tri-County region has been very active in development of a Tactical Interoperable Communications Plan (TICP) and installation of the Tri County Interoperability System (TRIS) to support interoperability between state, local and federal agencies within the region.

The King County Regional Communication Board is also very active in promoting and exploring regional initiatives with its neighboring jurisdictions that support and enhance interoperability.

RHSCD 4 Regional Interoperability Plan Summary:

RHSCD 4, consisting of Clark, Skamania, Cowlitz, and Wahkiakum Counties adopted a five component Interoperable Communications Plan. This plan was developed by the RHSCD 4 Homeland Security Coordinating Council (HSC) as an interoperable approach to support their homeland security mission. The plan considers the diversity of public safety responders in the region, the diversity of communications equipment, and the public safety frequency spectrum utilized by emergency responders. It recognizes the necessity to plan for internal regional interoperability as well as external regional interoperability. The Interoperable Communications Plan components are:

1. Linking Public Safety Answering Point (PSAP).
   This component provides interoperable communications among and between the four PSAPs located in RHSCD 4. The communications links are accomplished through permanent cross patches between the various Very

High Frequency (VHF) systems in use throughout the region and the Clark County 800 MHz system. The PSAP's base stations are to be programmed with the following statewide frequencies: Law Enforcement Radio Network (LERN) frequency; Washington State Fire Service Mutual Aid Network (REDNET); On-Scene Command and Coordination Radio (OSCCR) Network channel; VCALL; and very high frequency tactical (VTAC) 1-4 (the narrow band VHF calling channel and the narrow band VHF tactical channels). Implementation of this initiative is under way and is scheduled for completion in the first quarter of 2008.

2. Enhanced Fixed Communications.
   This component establishes three radio sites that link the Clark County 800 MHz system to the various VHF systems in use throughout the region: VTAC 2, LERN and REDNET. These sites will ensure interoperable communications along the major transportation routes and population centers throughout the four-county region. This initiative is designed to meet two important interoperability requirements: it will allow all RHSCD 4 PSAPs to directly communicate with each other and it will allow any public safety communicator in the region to contact all the PSAPs and vice versa. Implementation of this initiative is under way and is scheduled for completion in the first quarter of 2008.
3. Upgrade equipment to VHF narrow band, minimum channel and frequency spread requirements.
   This component is in response to the need for utilizing narrow band VCALL, VTAC and OSCCR channels. This initiative will identify and prioritize for replacement those VHF radios that do not meet the narrow band specifications, 16 channels, and frequency spread requirements.
4. Interoperable communications capability for giving mutual aid to and receiving mutual aid from jurisdictions or agencies not affiliated with the RHSCD 4 public safety networks.
   A regional communications response unit was formed and equipped with gateway devices, radio caches, cellular telephone, and satellite communications equipment that can rapidly respond to incidents internal and external to the region.
5. Planning
   Each agency in the region will be tasked with developing an interoperability plan for their agency.

Most of the components of this plan were funded over the past three years and good progress was made toward their completion.

Regional Planning Committee (RPC) Activities:

The Regional Planning Committee (RPC) for RPC 43, both the 800MHz and 700 MHz RPCs, have approved communication plans with the FCC which foster and enhance interoperability with designated mutual aid channels and talk groups

and mandatory build out of interoperability infrastructure on a pro-rated basis as new systems come online.

2.1 State Overview

Washington is one of the Pacific states of the United States of America. It is bounded on the north by a 325 mile international border with the Canadian province of British Columbia, on the east by Idaho, on the south by Oregon, and on the west by the Pacific Ocean[11].

Figure 2 State Map of Surrounding States and Canada

A series of waterways and marine channels in the northwest – the Strait of Juan de Fuca, Haro Strait, and the Strait of Georgia – separate the state from Canada's Vancouver Island. Puget Sound deeply indents the northwestern part of the state. These bodies of water contain numerous islands that form part of the state. The Columbia River forms much of the southern boundary and roughly

[11] *General Information About Washington State*, Access Washington, State of Washington Internet Portal, Washington State Department of Information Services, 2003, <http://access.wa.gov/government/awgeneral.asp#geo>, (March 31, 2003).

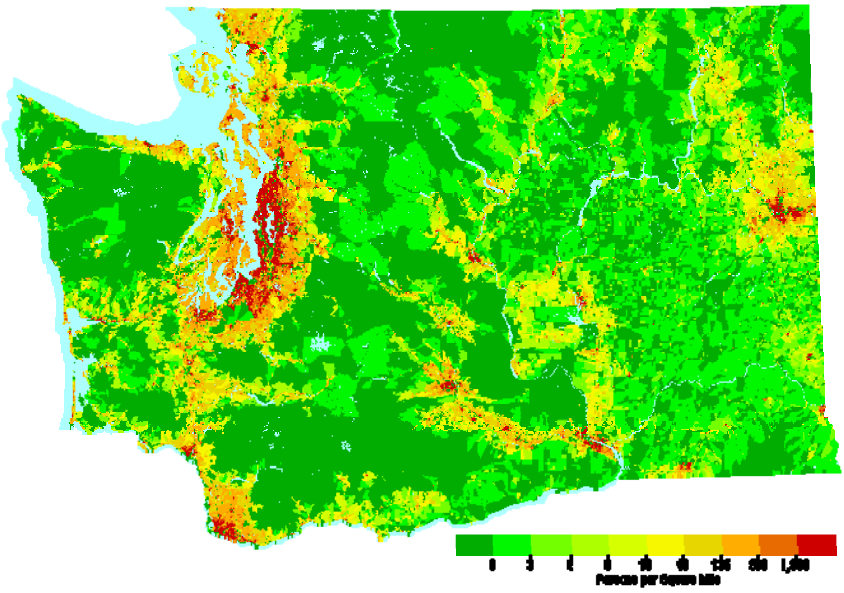
divides the state into half. Each of the waterways represents a major Geographic feature that affects emergency response service.

Formerly known primarily for its agricultural and forestry products, by the early 1990s Washington had developed a highly diversified economy. Although the state remained a leading national producer of products such as apples, wheat, and timber, manufacturing had become a leading sector of the economy. Tourism and other services also were important; the state's diverse scenic wonders attract hundreds of thousands of visitors annually.

George Washington is the state's namesake; the state's nickname is the Evergreen State.

Population

In 2006, the population of Washington was 6,375,600, ranking it 14th in the Nation. The state's population grew 8 percent from 2000, and is projected to grow another 18 percent by 2020, according to the Office of Financial Management Forecasting Division.



Map created by State of Washington Office of Financial Management, Olympia, Washington.

http://www.ofm.wa.gov/popden/colormap.asp

Figure 3 States Map of Population

Table 1 Population by Ethnic Group

	Hispanic/ Latino	Asian	African American	Native American	Total
Washington State	*7.5%*	*5.5%*	*3.2%*	*1.6%*	*17.8%*
Source: U.S. Census Bureau, Census 2000.					

According to the 2006 estimates by the state Office of Financial Management, the 10 largest cities in the state and their growth since the 2000 Census are:

Table 2 Population by City

1.	Seattle	578,700	2.7%
2.	Spokane	201,600	3.0%
3.	Tacoma	199,600	3.1%
4.	Vancouver	156,600	9.0%
5.	Bellevue	117,000	6.5%
6.	Everett	101,100	10.5%
7.	Spokane Valley	87,000	New City
8.	Federal Way	86,530	3.9%
9.	Kent	85,650	7.7%
10.	Yakima	81,710	13.7%

Figure 4 State Maps of Cities and Highways

Geography

There are significant major geographic features that affect emergency response service in the state of Washington.

Washington State's 66,582 square miles make it the 20th largest state in the country. The state is roughly half the area of Japan, three quarters the size of Great Britain, and about 40 percent the area of California. It is roughly rectangular, with dimensions of 235 miles from north to south and 345 miles from east to west. Elevations range from sea level to 14,410 feet at the summit of Mount Rainier. Washington's coastline on the Pacific Ocean is 157 miles.

The western section of Washington is part of the Coast Range region. In the southwest, the mountains, known locally as the Willapa Hills, form the lowest segment of the Pacific Coast range; the highest elevation here is about 3,110 feet. By contrast, the Olympic Mountains, which lie north of the Chehalis River valley, have some of the highest elevations in the Pacific mountain system. Mount Olympus, the highest peak, reaches 7,954 feet. With their deep glacial valleys and snowcapped summits, the Olympic Mountains offer some of the most spectacular scenery of the Coast Range.

To the east is the Puget Lowland, a structural depression that extends the length of the state. The maximum elevation is about 500 feet, and the surface is generally flat, although in places marked by hummocky glacial deposits. Puget Sound penetrates more than half of the basin's length.

The rugged, geologically complex Cascade Range lies east of the Puget Lowland. From the vicinity of Mount Rainier southward, the Cascade Range is a volcanic tableland, studded with cones including Mount Adams and Mount St. Helens. The northern section of the range is primarily a granitic

mass that includes the most extensive valley glaciers in the lower 48 states; the state's two other volcanoes, Mount Baker and Glacier Peak, are found here. The 1980 eruption and subsequent activity of Mount St. Helens demonstrates continued mountain building in the volcanic Cascades.

The Columbia Plateau dominates the southeastern part of the state. Vast lava flows formed this huge basin. The Columbia and Snake rivers have cut deep trenches in the Columbia Plateau. The Palouse Hills in the southeast section of the plateau is one of the state's most important agricultural regions. In the extreme southeast corner are the relatively low-lying Blue Mountains.

Part of the Rocky Mountains crosses the northeastern corner of Washington; several peaks have elevations exceeding 7,000 feet.

Waterways, Rivers and Lakes

The Columbia River, the largest river in the western United States, drains the eastern half of Washington. The river's numerous drops give it vast hydroelectric power potential. The Columbia's principal tributaries include the Snake, Spokane, Wenatchee, and Yakima rivers. Many smaller rivers flow west from the Cascade Range and the Coast Ranges. The most important of these is the Chehalis River, which rises in the Willapa Hills and flows north and west to Grays Harbor, an inlet of the Pacific Ocean. Other rivers include the Cowlitz, Nisqually, and Skagit rivers.

Puget Sound, about one-fifth the size of Lake Erie, is an inlet of the Pacific Ocean; with its numerous arms, it is the state's most significant body of water. Lake Chelan, a long, narrow glacial lake in the Cascade Range, is the largest natural lake in Washington. Dams on the Columbia River have created large artificial lakes. Among these are Franklin D. Roosevelt Lake (behind Grand Coulee Dam) and Banks Lake (behind Dry Falls Dam).

Climate

Washington's climate varies greatly from west to east. A moist and mild maritime climate predominates in the western part of the state, and a cooler dry climate prevails east of the Cascade Range. The average annual temperature ranges from 51° F on the Pacific coast to 40° F in the northeast. The recorded low and high temperatures in the state have ranged from -48° F in 1968 to 118° F in 1961.

A wet, marine West Coast climate predominates in Western Washington; it is mild for its latitude due to the presence of the warm North Pacific Current offshore and the relatively warm maritime air masses. The region has frequent

cloud cover, considerable fog, and long-lasting drizzles; summer is the sunniest season.

The western side of the Olympic Peninsula receives as much as 150 inches of precipitation annually, making it the wettest area of the lower 48 states. Weeks may pass without a clear day. Portions of the Puget Sound area, on the leeward side of the Olympic Mountains, are less wet, although still humid.

The western slopes of the Cascade Range receive some of the heaviest annual snowfall in the country, in some places more than 200 inches. In the rain shadow east of the Cascades, the annual precipitation is only six inches. Precipitation increases eastward toward the Rocky Mountains, however.

The climate east of the Cascade Mountains has characteristics of both continental and marine climates. Summers are warmer, winters are colder, and precipitation is less than in western Washington. Extremes in both summer and winter temperatures generally occur when air from the continent influences the inland basin.

Annual precipitation ranges from seven to nine inches near the confluence of the Snake and Columbia Rivers in the Tri-Cities area to 15 to 30 inches along the eastern border. During July and August, four to eight weeks can pass with only a few scattered showers. Thunderstorms and a few damaging hailstorms are reported each summer. During the coldest months, freezing drizzle occasionally occurs, as does a Chinook wind that produces a rapid rise in temperature.

Economy

Before its settlement in the mid-19th century, the region that is now Washington was important for its fur-trapping industry. Agriculture and lumbering gradually developed around Puget Sound and in some outlying areas. A major stimulus to the development of these embryonic economies was the construction of transcontinental and north-south railroads in the late 19th century. By the end of the century, shipping had become important. In the 20th century, the construction of dams on the Columbia River provided irrigation water for the dry farmlands of the east and furnished cheap electric power. Manufacturing began its rapid growth in the state in the World War II period, when the federal government established defense industries here.

The top five employment industries in Washington (see Table 1, below) made up one-third of state employment in 2005. Three of the top five industries have average wages above the state median non-farm wage of $33,328 (March 2005).

Table 3 Washington Key Employment Industries, 2005

Industry	2005 Employment	2004 Average Wage
Construction	177,300	$40,192
Administrative and Waste Services	141,400	$33,482
Professional and Technical Services	142,200	$58,507
Accommodation and Food Services	218,600	$14,771
Health Care and Social Assistance	286,200	$34,939
Source: Washington Labor Market Quarterly Review, Washington Department of Employment Security, Jan-Mar 2006		

International Trade

In 2004, more than $111 billion in international trade moved through Washington. More than half of the goods ($63 billion) moved through the state's water ports, with the Ports of Seattle ($29 billion) and Tacoma (nearly $28 billion) handling the bulk of the waterborne freight. [12]

In 2004, Washington's exports were valued at $46 billion. Leading exports include transportation equipment, primarily aircraft and parts, agricultural crops, electronic and scientific equipment, wood products, special industry machinery, and auto parts and accessories. Leading imports include passenger cars and trucks, motor vehicle parts, aircraft engines and equipment, foot ware, wood products, television receivers, electronic and table games, crude oil and petroleum gases.

The state's major trading partners in 2004 were Japan, Canada, China (Mainland), South Korea, China (Taiwan), France, Singapore, Netherlands, United Kingdom, and Hong Kong.

Agriculture

The $29 billion food and agriculture industry makes up 13 percent of the state's economy and employs 160,000 people. The state has about 36,000 farms, which average 426 acres. Agriculture is concentrated in the Puget Sound area and the somewhat-isolated valleys to the south, in the dry-farmed holdings of the eastern two-thirds of the state, and in the irrigated land on the upper Columbia,

[12] *Washington State Data Book 2005*, Office of Financial Management.

Snake, and lesser rivers. Crops make up about two-thirds of the yearly farm income. Wheat, grown primarily in the east, is the state's leading field crop. Fruits, nuts, and berries account for more than one-third of the value of the crops produced in the state. Washington is the leading national producer of apples, sweet cherries, pears, red raspberries, and hops. Other important crops are hay, potatoes, sugar beets, peas, dry beans, and flower bulbs.

Livestock products account for about one-third of annual agricultural income. Dairy farming is concentrated in the Puget Sound region and in valleys of the southwest. Cattle and sheep are raised in the drier, eastern part of the state.

The fishing industry is significant, although it is a small part of the state's economy. Ports on Puget Sound and the Pacific Ocean handle almost all landings. Salmon accounts for about one-third of the value of the catch, followed by oysters, crab, shrimp, and other shellfish. Other fish caught include halibut, flounder, tuna, cod, rockfish, pollock, and sablefish.

Forestry

Forestry is a major industry in Washington. About 93 percent of harvested wood is softwood, primarily Douglas fir and western hemlock. Nearly all of the harvest is in the moist valleys of the Cascade Range and to the west. More than 40 percent of the harvest becomes lumber, about 40 percent exported as round wood, and the remainder used for pulp and plywood.

Mining

Metallic mineral resources are primarily in the mountains in the northeastern part of the state. Lead, zinc, magnesium, and gold are present here. Coal deposits are in the western Cascades; sand and gravel are in many areas. The mining industry accounts for less than 1 percent of the annual gross state product in Washington. Leading mineral products include coal, Portland cement, sand and gravel, and stone. Other minerals produced include diatomite, crude gypsum, lime, magnesium, olivine, and silver.

Manufacturing

Manufacturing accounts for nine percent of the annual gross state product in Washington. The leading manufactured products include transportation equipment, primarily aircraft and aerospace equipment; lumber and wood products; paper; food products; industrial machinery; primary metals; printed materials; and precision instruments. Most industry is concentrated in the urbanized corridor along Puget Sound between Bellingham in the north and Olympia in the south. Seattle and Tacoma are the primary industrial centers of the state. The processing of commodities from forestry, farming, and fishing tends to be located near the sources of raw materials.

Tourism and Recurring Large Events

About 12 million visitors spent more than $12.4 billion in Washington in 2005[13]. The state's major attractions are both rural and scenic, including three national parks – Mount Rainier, Olympic, and North Cascades – three national recreation areas – Lake Chelan, Coulee Dam/Lake Roosevelt, and Ross Lake – and extensive areas of national forests. In addition, the state maintains a system of 110 parks developed for recreational use. Seattle is the leading urban tourist attraction; its Space Needle and monorail, built for the Century 21 Exposition, the world's fair of 1962, are still in use.

Washington is host to many recurring large scale events throughout the state. The Seattle area has many recurring sports activities with all the major sports represented by professional and/or lower level teams. Professional baseball, football, basketball, and soccer are all conducted in the downtown Seattle area on a continuous basis throughout the year. Periodically there are other events such as major international amateur events like the Pan American games, or single discipline sporting events such as PGA Golf Tournaments and U.S. Swimming championships. In the Kent, Washington area is a major horseracing facility, Emerald Downs, which attracts thousands of patrons through its summer racing season.

As a major metropolitan area, Seattle has a myriad of festivals throughout the spring summer and early fall. The most major of these repetitive events is likely the Seattle Seafair event which is held near the end of July or early August annually. This event is surrounded by many major activities such as the Torchlight parade, Blue Angles Demonstration Team, and the Seafair Hydroplane Races.

The region has other major activities such as the annual National Hot Rod Association Drag Racing championships at Pacific Raceways in Kent, Washington and major county fairs such as the Puyallup and Evergreen State Fairs which occur in late summer or early fall.

Downtown Seattle and the Puget Sound Basin area have many cultural activities including theaters, major art galleries, and events centers that are capable of supporting all types of dance, theater, and musical productions to numerous to list.

See The Washington Festival and Events web site at http://www.wfea.org/calendar-event for a detailed list of recurring large events.

Transportation

Washington has a network of about 83,300 miles of federal, state, and local roads. This figure includes 764 miles of interstate highways that cross the state from north to south and from east to west. The road system is densest in the

[13] *Washington State Statewide Travel Impacts & Visitor Volume, 1991-2005p*, Washington Department of Community Trade and Economic Development, December 2005

heavily populated Puget Sound region. Railroads serve Washington with 3,123 miles of track.

Seattle, Tacoma, Kalama, Longview, Vancouver, and Bellingham are the most important of Washington's ports. Although most ports are located on Puget Sound or the Pacific coast, several are located on the upper Columbia River; oceangoing and river barges can navigate upstream by a 24-foot deep channel as far as the Tri-Cities (Kennewick, Pasco, and Richland). Ferries connect key points on Puget Sound with one another and with Victoria, British Columbia, and Alaska. A crude-oil pipeline reaches Puget Sound from Alberta; natural-gas pipelines extend from British Columbia to Spokane and from Alberta through Spokane to Oregon and California.

Washington has 129 airports. The Seattle-Tacoma and Spokane international airports dominate air traffic in the state. The former is also an important terminus for transpacific flights.

Energy

Electricity generating plants in Washington have a total installed capacity of 24.2 million kilowatts and produce about 100.5 billion kilowatt-hours of electricity each year. Washington leads the nation in both installed capacity and annual production of hydroelectricity. The Grand Coulee, Chief Joseph, and John Day dams are the key units in a system that includes six major dams on the Columbia River, four on the Snake River, and others on lesser rivers.

Hydroelectric facilities produce about three-quarters of the annual output of electricity, with conventional thermal installations and one nuclear power station producing the rest. The state exports some electricity during various times of the year.

Natural Hazards

The 2007 Washington State Enhanced Hazard Mitigation Plan addresses six natural hazards:

Earthquake – More than 1,000 earthquakes occur in Washington each year. A dozen or more are felt; occasionally, they cause damage. Large earthquakes in 1946 (magnitude 5.8), 1949 (magnitude 7.1) and 1965 (magnitude 6.5) killed 15 people and caused millions in damage. The most recent large event, the magnitude 6.8 Nisqually earthquake on February 28, 2001, killed one person, injured more than 700, and caused from $1 billion to $4 billion in damage. The earthquake threat in Washington is not uniform. Most earthquakes occur in Western Washington; some damaging events, such as the 1872 magnitude 6.8 quake, occur east of the Cascades. Geologic evidence documents prehistoric magnitude 8 to 9 earthquakes along the outer coast, and events of magnitude 7 or greater along shallow crustal faults in the urban areas of Puget Sound.

Flood – Damage from flooding exceeds damage by all other natural hazards in Washington State. Many rivers typically flood every two to five years; damaging

flood events occur less frequently. In western Washington, long periods of rainfall and mild temperatures normally cause flooding. Flooding in eastern Washington usually results from periods of heavy rainfall on wet or frozen ground, mild temperatures, and from the spring runoff of mountain snow pack; this side of the state also is prone to flash flooding. Floodplains make up about 2.5 percent of the state's total land area; these areas contain an estimated 100,000 households.

Severe storm – All areas of Washington State are vulnerable to severe weather. A severe storm is an atmospheric disturbance that results in one or more of the following phenomena: strong winds, large hail, thunderstorm, tornado, rain, snow, or freezing rain. Typically, major impacts from a severe storm are to transportation and loss of utilities. Most storms move into Washington from the Pacific Ocean. Storm types of concern are high winds and severe winter storms.

Tsunami – The Pacific Coast, Strait of Juan de Fuca, Puget Sound, and large lakes are at risk from tsunamis, trains of powerful waves that threaten people and property along shorelines. Large earthquakes, landslides, and underwater volcanic eruptions generate tsunamis. A Pacific Ocean tsunami can affect the entire Pacific basin, while a tsunami in inland waters can affect many miles of shoreline. Tsunamis typically cause the most severe damage and casualties near their source. Nearby populations often have little time to react; persons caught in the path of a tsunami often have little chance of survival.

Volcano – Washington has five major volcanoes that are among the most dangerous in the nation because of the destructive nature of their natural phenomena and the threat they pose to people, the built environment and civil aviation. According to a 2005 U.S. Geological Survey report, Mount St. Helens poses the second greatest volcanic threat in the nation because it has been erupting since the fall of 2004. The volcano's 1980 eruption was the most destructive in the history of the United States. Mount Baker, Mount Rainier, and Glacier Peak also are considered very high threats, while Mount Adams poses a high threat. All five volcanoes threaten major populations and development. The risk posed by volcanic activity is not always apparent, as volcanoes can lie dormant for centuries between eruptions. When volcanoes erupt, pyroclastic flows, lava flows, and landslides can devastate areas 10 or more miles away, while lahars can inundate valleys more than 50 miles downstream.

Wildland Fire – Short-term loss caused by wild land fire can include the destruction of timber, wildlife habitat, scenic vistas, and watersheds, and increase vulnerability to flooding. Long-term effects include smaller timber harvests, reduced access to affected recreational areas, and destruction of cultural and economic resources and community infrastructure. The wildland fire season usually begins in early July and typically culminates in late September with rain; wildland fires have occurred in every month of the year. People start most wildland fires, but lightning-caused fires burn more state-protected acreage.

From 1992 through 2005, the state experienced an average of 900 fires annually on state protected lands that burned an average of 17,000 acres.

Critical Infrastructure

The State of Washington Infrastructure Protection Plan lists 17 Critical Infrastructure / Key Sectors[14]:

1. **Agriculture and Food** – Agriculture and related industries account for nearly 13 percent of the annual gross state product. The state has approximately 37,000 farms producing over 300 commercial crops with a farm gate value of over $5.5 billion.
2. **Banking and Finance** – Included here are physical banking and financial structures, wholesale banking operations, financial markets, regulatory institutions, physical repositories for documents, and financial resources. Washington State has an extensive financial community with depository institutions and trust companies that in 2002 had over $102 billion in resources, over 100,000 firms/individuals providing securities investments and advice representing over $579 billion statewide, $5 billion in real estate secured loans and over $879 million in short-term, in-state loans. Statewide, there is a $19 billion insurance industry of over 1,374 insurance companies, with 50 domestic insurers headquartered in the state.
3. **Chemical Industry and Hazardous Materials Industry** -The use of chemicals is a fundamental component of Washington State industry and infrastructure.
4. **Defense Industry Base** -The "defense industrial base" refers to the support systems and capability of industry to produce essential material to support national military objectives --e.g., repair parts, ammunition, and chemical defense, food, medical, and fuel supplies. Within Washington State's borders, there are numerous defense contractors that produce critical military equipment systems and supplies.
5. **Energy** – Washington State currently has electricity-generating capacity of 26,890 megawatts, and generates approximately 97,841,363 megawatt-hours of electricity. We lead the nation in both installed capacity and annual production of hydroelectricity. The system of dams in the state is the key to this capacity. In past years, electricity produced approximately 73 percent by hydroelectric facilities, 17 percent by thermal resources, 8 percent by nuclear power plants, and 2 percent by renewable energy sources.

[14] Washington Infrastructure Protection Plan (Draft), Sector Matrix, Appendix 5, February 2007

6. **Emergency Services** – Across our nation, "people" are the most valuable resources to emergency services. Washington State has over 100,000 professional and volunteer emergency responders in fire, rescue, emergency medical services, 9-1-1, law enforcement, and emergency management who are vital to assuring our state's most critical homeland security capabilities. Among our communities are 288 police departments, 39 sheriffs departments, and eight Washington State Patrol Districts. Washington State boasts 88 hospitals that provide emergency room services, with 78 state certified trauma centers distributed throughout the state's Emergency Medical Services (EMS) system. The Puget Sound area is home to the Federal Emergency Management Administration's (FEMA) Urban Search and Rescue Task Force –1, as well as a Disaster Medical Assistance Team (DMAT), the 10th Civil Support Team (CST) and Washington National Guard Chemical, Biological, Radiological, Nuclear, and conventional High Yield Explosives (CBRNE) Enhanced Response Force Package (NGCERFP) for Weapons of Mass (WMD) response. Additionally, the Puget Sound region is designated as one of the 11 Pre-positioned Equipment Program (PEP) sites nationwide.
7. **Information Technology** -The Information Technology (IT) Sector is a key enabler for the state, Nation and global economies is highly diverse and cuts across all of the other critical infrastructure sectors.
8. **Telecommunications** – Voice and data services are vital for business operations and keeping citizens connected to government and each other. This "critical infrastructure" sector affects every resident because of the complex interdependencies and magnitude of telecommunications and cyber systems within the state.
9. **Postal and Shipping** – The fundamental functions of postal and parcel-shipping organizations in the state economy – moving items from Point A to Point B – are similar to cargo operations in the Transportation Sector. The Postal and Shipping Sector is distinct from the Transportation Sector because of the unique activities, processes, and facilities in the sector, as well as the vastly different volumes of operation and customer base.
10. **Healthcare and Public Health** – The state and local health departments, hospitals, clinics, mental health facilities, nursing homes, blood-supply facilities, and laboratories are key to sustaining our population. The state public health system is comprised of the Washington State Department of Health and 35 local health departments and districts.
11. **Transportation** – The state transportation infrastructure includes aviation, maritime, rail, bridges, highways, trucking, pipelines, and mass transit systems. There is a robust transportation system in

Washington State, built upon a network of 81,300 miles of federal, state, and local roads. Washington State has the nation's largest fleet of ferries. The state is also served by approximately 2,075 route miles of Class I railroad track and 1,115 miles of track operated by 17 short-line railroads, and two Amtrak Cascade trains. Washington State has 76 public port districts. The combined ports of Seattle and Tacoma are the second largest container load centers in the United States. Agricultural commodities and other goods are also transported throughout the Puget Sound and river systems. We have 127 public airports, three seaplane bases, Seattle-Tacoma and Spokane International Airports, and a number of regional transportation airports.

Washington State is home to several ports vital to the inter-modal movement of cargo regionally, nationally and internationally. We have the largest controlled public port system in the world, 76 of which have marine terminals, barge facilities, industrial development, fuel depots, marinas, airports, railroads, and Washington Infrastructure Protection Plan military cargo capability. The Ports of Tacoma and Seattle are Washington State's largest seaports, and, combined they make up the second-largest U.S. container load complex behind Los Angeles/Long Beach and ahead of New York/New Jersey. The Ports of Tacoma and Seattle import and export millions of containers with goods ranging from agriculture products to electronic equipment. Seattle has a large and growing cruise business, while Tacoma is one of 13 power projection platforms in the US that are vital to military operations. Our ports handle seven percent of all U.S. exports and six percent of all imports representing in excess of $100 billion of trade annually and add to the state economy by creating one out of every four jobs in Washington State. The Port of Vancouver is located at a natural transportation hub on the Columbia and Snake River system. The Port of Vancouver annually processes over 500 ocean-going vessels and river barges with a total cargo volume exceeding five million metric tons. It is adjacent to north/south and east/west national highways that offer on-site connection to rivergrade rail traveling between Canada and Mexico and east to Chicago. It is a transfer and switching station for four major railroad lines serving North America and is located near a major international airport.

12. **Water and Wastewater** – Washington State has over 8,000 lakes, 40,000 rivers, 157 miles of open coastline, and hundreds of miles of ground water aquifers to protect. Our water and wastewater infrastructure is made up of over 17,000 public water systems, and over 300 public wastewater treatment facilities.
13. **National Monuments & Icons** – This category includes historical attractions, monuments, cultural centers, nationally-prominent

companies, commercial centers, sports stadiums, schools, universities, and parks and recreation.

14. **Commercial Assets** – Protecting prominent commercial centers, office buildings, sports stadiums, theme parks, and other sites where large numbers of people congregate to pursue business activities, conduct personal commercial transactions, or enjoy recreational pastimes presents significant challenges.

15. **Government Facilities** – Within Washington State, there are major Army, Navy, Air Force, Coast Guard, and National Guard facilities. These are strategically located to support and deploy forces worldwide, as well as to provide support for state missions. The military components provide employment for over 100,000 civilian and military personnel.

    There is also federal government infrastructure in Washington State that is vital to state and national security. Washington State is home to the FEMA Region X Headquarters, the Federal Reserve Regional Headquarters, federal courthouses, Federal Aviation Administration (FAA) facilities, and many other important entities.

    Washington State government owns almost 11,000 buildings and employs over 102,000 people. In addition, local governments protect and secure 39 county jurisdictions and over 281 cities.

    Public education is a key component of our governmental capabilities and is comprised of nine Education Service Districts, three independent districts, and 296 state school districts with over 2200 school buildings. In addition to being vital state resources that must be protected, schools provide significant resources for emergency response and recovery facilities to be used as command centers, staging areas, and recovery operations centers.

16. **Dams and Levees** – Some of our larger and more symbolic dams are major components of other critical infrastructure systems that provide water and electricity to large population areas, agricultural complexes, commercial and sport fishing activities, and recreation. There are approximately 1,000 dam facilities in Washington State. Most are small and their failure would not result in significant property damage or loss of life.

17. **Commercial Nuclear Reactors, Materials, and Waste** – The Columbia Generating Station represents about 12 percent of the state's electrical generation capacity through the Bonneville Power Administration.

Highways of Significance

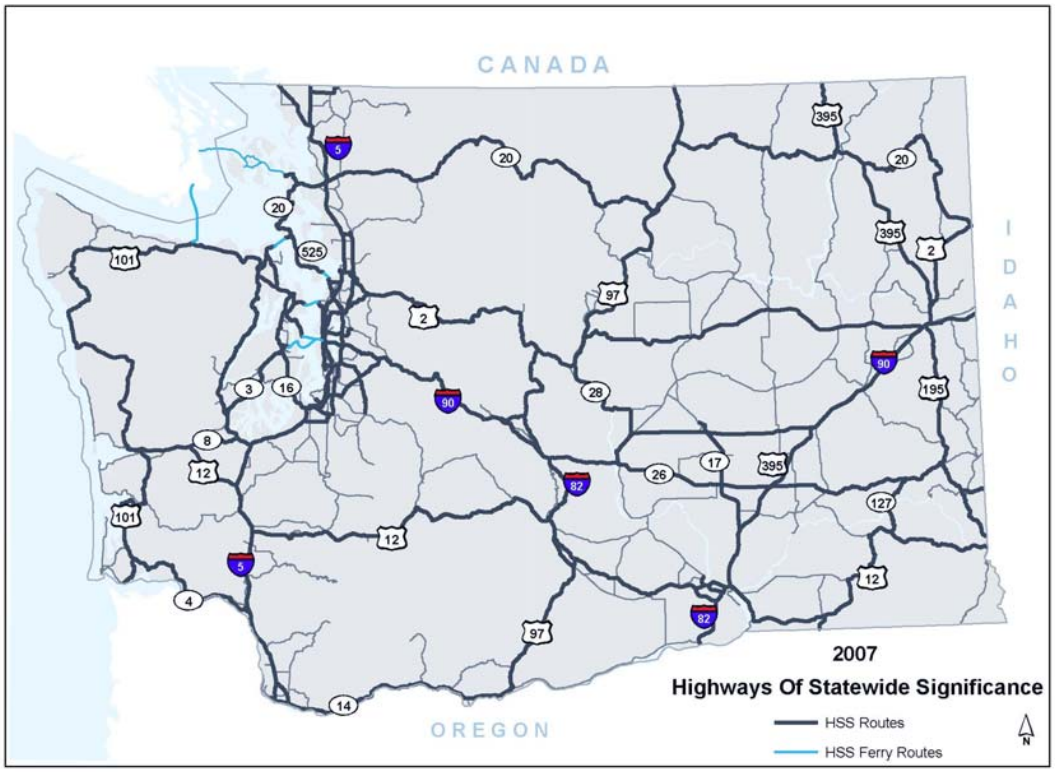


Figure 5 State Map of Highway of Statewide Significance

There is a robust transportation system in Washington State, built upon a network of 81,300 miles of federal, state, and local roads. Highways of Statewide Significance (HSS)[15] include interstate highways and other principal arterials that are needed to connect major communities in the state[16].

Interstate highways of significance are:

1. I-90: 297 miles in length, it bisects the center of the state providing east-west arterial flow from Seattle in the west to the Idaho border. I-90 incorporates two of the longest floating bridges in the world, the Lacey V. Murrow Memorial Bridge and the Homer M. Hadley Memorial Bridge, which cross Lake Washington from Seattle to Mercer Island, Washington.

[15] http://www.wsdot.wa.gov/planning/HSS

[16] Highways of Statewide Significance, http://www.wsdot.wa.gov/NR/rdonlyres/C4B061B3-9011-4F92-BC90-3CEDE893A539/0/HSSstatewide2007.pdf.

2. I-82: 144 miles in length, its western terminus is at Interstate 90 in Ellensburg, Washington and its eastern terminus is at Interstate 84, just southwest of Hermiston, Oregon.
3. I-5: 276 miles in length, it is the westernmost interstate highway in the contiguous United States. Its odd number indicates that it is a north-south highway. Its northern terminus is at the international border between the United States and Canada at the Peace Arch in Blaine, Washington. The highway exits Washington at the Columbia River crossing in the city of Vancouver, Washington. Its southern terminus is at the international border between the United States and Mexico in the San Diego community of San Ysidro, California.

The Washington State Transportation Commission determined 58 state highways of significance, including interstate highways. They are identified in the Highways of Statewide Significance (HSS) List - 2007[17] and are defined in Chapter 47.17, Revised Code of Washington[18]. This list includes six HSS Ferry Routes servicing the Puget Sound region, including Sidney, British Columbia. These HSS Ferry Routes include:

- Pt. Townsend/Keystone Ferry
- Edmonds/Kingston Ferry
- Seattle/Bremerton Ferry
- Seattle/Bainbridge Island Ferry
- Mukilteo/Clinton Ferry
- Anacortes/Sidney B.C. Ferry

2.1.1 NIMS/Multi-Agency Coordination System (MACS) Incorporation

The state of Washington incorporates concepts and principles of National Incident Management System (NIMS) Chapter II, Command and Management, including the Incident Command System (ICS) characteristics through use of a Multi-Agency Coordination System (MACS). MACS provides the architecture to support coordination for incident prioritization, resource allocation, communications systems integration and information coordination.

The Revised Code of Washington (RCW) 38.52.070[19] requires the use of ICS by all incident management and response organizations within the state for all mutli-jurisdictional events. "Local comprehensive emergency management plans must

[17] Transportation Commission Proposed List of Highways of Statewide Significance, **http://www.wsdot.wa.gov/NR/rdonlyres/977ADCD8-BCDF-453B-AD6C-AE9BD6093B53/0/HSSlist2007.pdf**

[18] Chapter 47.17 RCW: State highway routes, http://apps.leg.wa.gov/RCW/default.aspx?cite=47.17

[19] Revised Code of Washington 38.52.070, http://apps.leg.wa.gov/RCW/default.aspx?cite=38.52.070

specify the use of the incident command system for multi-agency/multi-jurisdiction operations."

The RCW further defines an ICS as "Incident command system" means: (a) An all-hazards, on-scene functional management system that establishes common standards in organization, terminology, and procedures; provides a means (unified command) for the establishment of a common set of incident objectives and strategies during multi-agency/multi-jurisdiction operations while maintaining individual agency/jurisdiction authority, responsibility, and accountability; and is a component of the national interagency incident management system; or (b) an equivalent and compatible all-hazards, on-scene functional management system."

The elements of the Washington MACS include facilities, equipment, personnel, procedures and communications. Two of the most commonly used elements are Emergency Operations Centers (EOC) and MAC Groups. These systems facilitate the coordination of resources during response to an event or incident.

A MACS may incorporate the use of several local (city and/or county) EOC's, the state EOC and several Department EOC's. It includes the incident command site and dispatch centers. It may also include unified command sites and area command sites as required.

The state of Washington developed and employs Emergency Operations Plans (EOP) and Standard Operating Procedures (SOP) that are used by the EOC coordinators, managers and supervisors to respond to incidents. The EOPs address how those facilities should operate including the use of the ICS command and management characteristics that are required to coordinate and support emergency incident and event management

Washington EOPs utilize the ICS characteristics as follows:

- Common terminology: Responders speak the same language, refrain from using acronyms or 10 codes and use the same titles for resources.
- Modular organization: Use the ICS organizational structure; Command, Operations, Plans, Logistics, Finance, then branches, divisions, etc, adding or subtracting functions as needed.
- Management by objectives: Identify overarching objectives to accomplish during established operational periods.
- Incident action planning: Use of incident action planning concepts, develop and distribute a written Incident Action Plan to all personnel for all multi-operation periods.
- Manageable span of control: Limit the number of employees per supervisor to between three and seven.

- Pre-designated incident facilities: Use of fixed EOC and other facilities; pre-identified storage sites and points of resource distribution; identification of alternate sites.
- Comprehensive resource management: Inventory of and types of resources, developing a resource inventory management system. This characteristic is under development.
- Integrated communications: Established the capability to share voice and data information with other jurisdictions and levels of government with 800 MHz State Emergency Network (STAEN), OSCCR, Comprehensive Emergency Management Network (CEMNET), National Warning System (NAWAS), WebEOC, internet, email, and satellite systems.
- Transfer of command: Conduct appropriate briefings between operational periods and officially transfer command between old/new crews.
- Unified command: Report to one leader.
- Personnel and resource accountability: Develop staffing patterns, assignment charts, and track resources.

The state of Washington incorporates the concepts and principles of NIMS Chapter II, Command and Management, including ICS characteristics through use of a Multi-Agency Coordination System (MACS) at all levels of government.

2.1.2 Regions/Jurisdictions

Government[20, 21]

A Constitution adopted in 1889 and amended since then governs Washington. The Constitution prevents a strong centralized state government. Local governments provide basic services within counties and incorporated cities and towns, with special purpose districts allowed to provide services outside of cities and towns when the county was unable to do so.

Washington has 39 counties, most of which are governed by popularly elected three-member Boards of Commissioners. Other elected county officials include the Assessor, Auditor, Treasurer, Coroner, Clerk, Sheriff, and Prosecuting Attorney. Larger counties, including King, Pierce, and Snohomish Counties, have an elected County Executive and a larger elected County Council. Most of the state's 281 towns and cities have a mayor-council form of government. Some cities have a city manager-council form of government, with an elected council that hires a city manager or administrator to run day-to-day operations.

[20] *Our Evergreen State Government, State and Local Government in Washington*, Richard Yates, 1989.

[21] *Washington – A History of the Evergreen State*, Mary W. Avery, 1965.

The state has a bicameral Legislature, with popularly elected Senate and House of Representatives. The 49 members of the Senate serve four-year terms, and the 98 members of the House of Representatives serve two-year terms. Two representatives and one senator represent each of the state's 49 legislative districts.

Washington's Supreme Court has a chief justice and eight associate justices. The intermediate appellate court is the 22-member Court of Appeals, and the major trial courts are the Superior Courts of the counties, which have 147 judges. Voters elect the judges of all these courts on nonpartisan ballots.

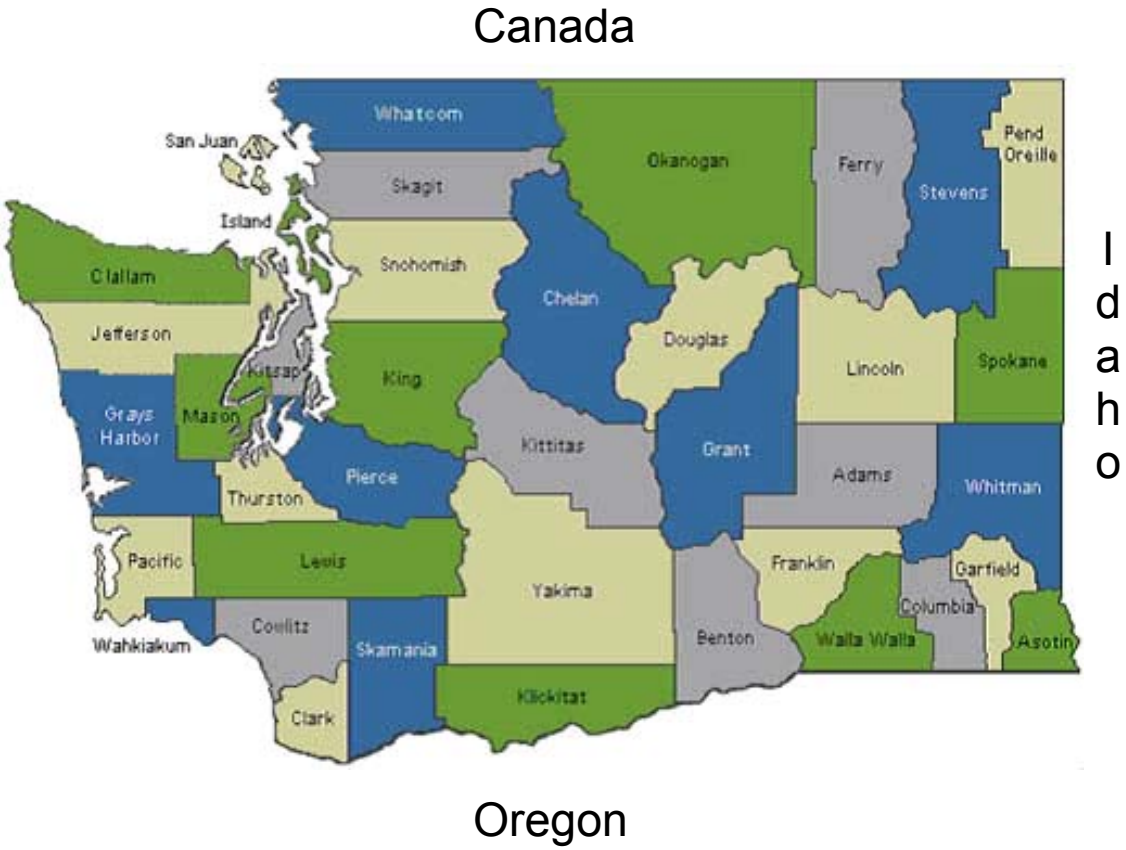


Figure 6 State Map of Surrounding States and Canada

Regions

The Washington State Enhanced Hazard Mitigation Plan uses a regional approach to provide a better understanding of the threat posed by natural hazards to state facilities and to vulnerable populations.

Regional Homeland Security Coordination Districts (RHSCD)

The Washington State Homeland Security regional planning and coordination structure is divided into nine regions. The regions are made up of one or more counties that include cities, towns, and tribal nations within the regional geographical boundaries. This regional configuration was implemented to

distribute federal grant funds, develop emergency responder equipment priority lists, plan and execute training and exercise programs, create regionally based mutual aid plans, and develop volunteer infrastructure to support citizens' involvement in homeland security initiatives. This regional structure has increased communication and collaboration, to include the sharing of best practices and resource coordination. Operations and physical resources are maintained at the local jurisdiction (county, city, and tribal) level, and coordination and planning are facilitated at the regional level.

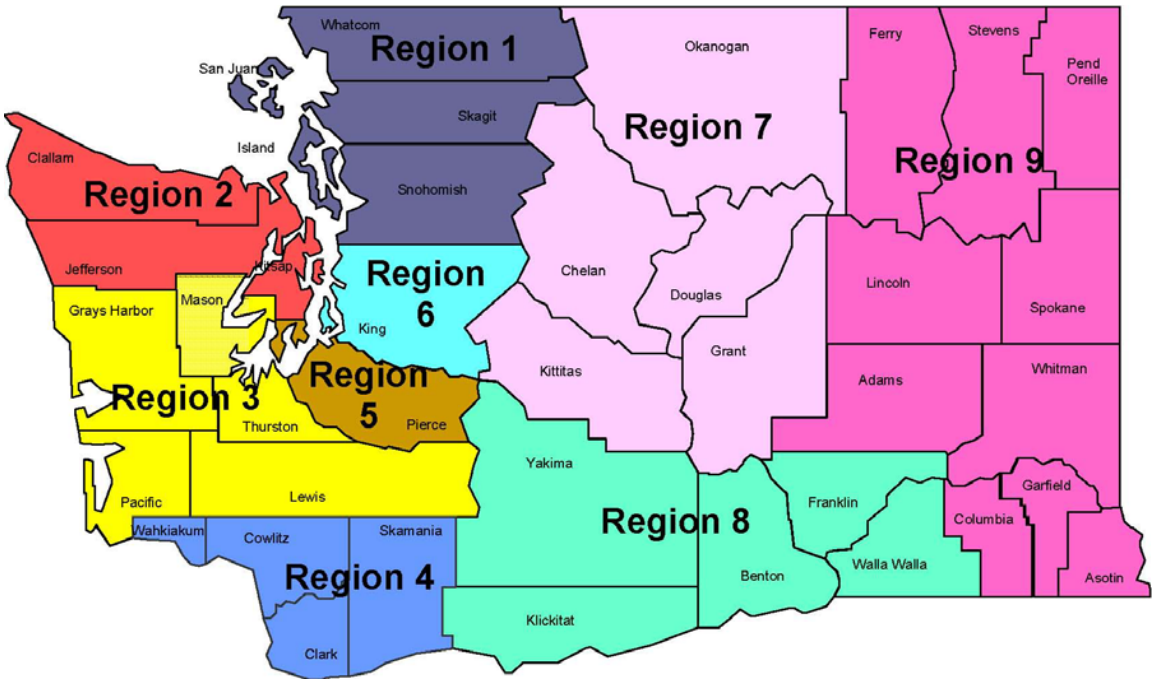


Figure 7 Regional Homeland Security Coordination Districts (RHSCD)24

The Washington Department of Health originally developed the nine-region format for bio-terror planning, and the Washington Military Department's Emergency Management Division adopted it for homeland security planning. It is also used as the State Hazard Mitigation Planning Regions in the State of Washington 2007 Hazard Mitigation Plan.

Table 4 Regional Homeland Security Coordination Districts (RHSCD)

Region 1	Region 2	Region 3	Region 4	Region 5
• Island • San Juan • Skagit • Snohomish • Whatcom	• Clallam • Jefferson • Kitsap	• Grays Harbor • Lewis • Mason • Pacific • Thurston	• Clark • Cowlitz • Skamania • Wahkiakum	• Pierce
Region 6	**Region 7**	**Region 8**	**Region 9**	
• King	• Chelan • Douglas • Grant • Kittitas • Okanogan	• Benton • Franklin • Klickitat • Walla Walla • Yakima	• Adams • Asotin • Columbia • Ferry • Garfield • Lincoln • Pend Oreille • Spokane • Stevens • Whitman	

Each region has an interdisciplinary council that determines priorities for the region. They assess vulnerabilities and determine how to address enhancements to the region's capabilities. Their coordination and oversight of region-wide strategic planning, interoperable communications planning, citizen preparedness planning, catastrophic incident planning, etc. fosters on going multi-jurisdiction regional collaboration.

One county within each region acts as the regional lead. The regional lead implements the vision of the regional council and is ultimately responsible for the projects, fiscal accountability, and contract management for the region. Each regional lead has a regional coordinator who is specifically tasked to work with the regional partners at the city, tribe, and special purpose district level to keep them engaged in the regional process.

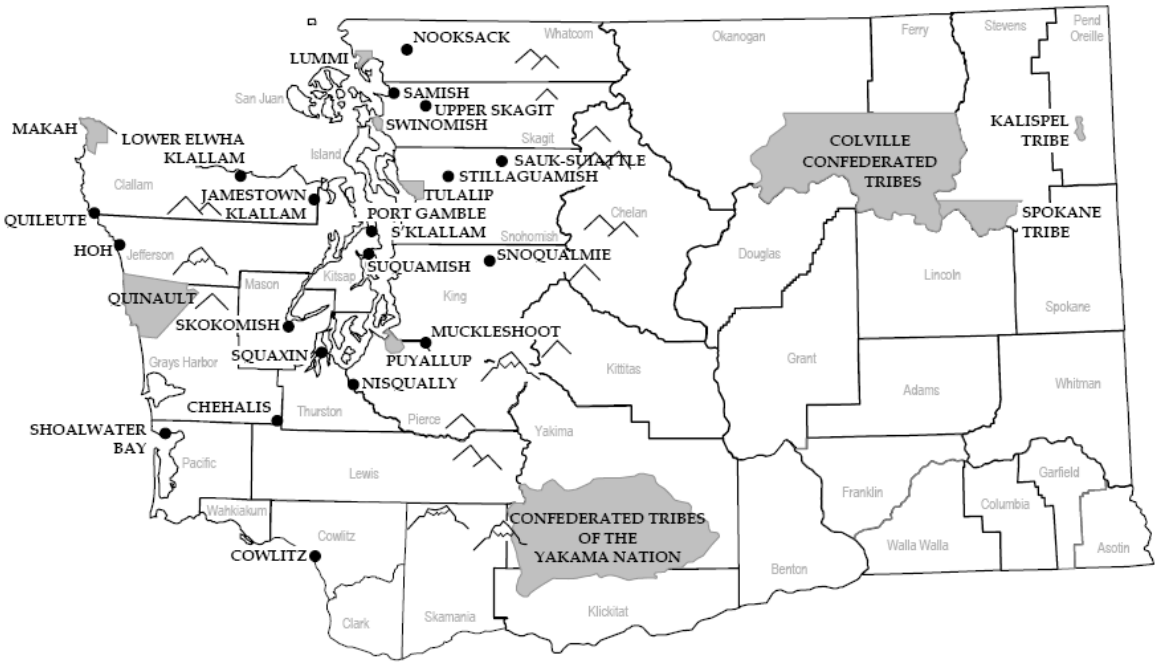
These councils include representation from the federally recognized tribes of Washington State. This council process is the routine and recurring method by which the state of Washington collaborates with the tribal nations regarding interoperable public safety communications.

Additionally, many of the tribal nations of Washington have formed The Northwest Tribal Emergency Management Council (NWTEMC)[22]. The development of the NWTEMC not only better prepares Tribal entities for emergency incidents, but also provides more opportunities for the participating

[22] http://www.nwtemc.org/purpose.html

Tribes to work collaboratively to assist one another in meeting the mandates of related emergency management programs and foster partnerships with their neighboring counties and municipalities.

FEDERALLY RECOGNIZED TRIBES OF WASHINGTON STATE



Emergency Response Agencies

The State Department of Emergency Management, Emergency Planning Program Coordinator interfaces with 39 Counties and 61 City Emergency Management Agencies/Services in Washington State and the Federal Emergency Management Agency (FEMA) Region X located in Bothell Washington.

The State of Washington Infrastructure Protection Plan assesses statewide emergency services capability as follows: Washington State has over 100,000 professional and volunteer emergency responders in fire, rescue, emergency medical services, 9-1-1, law enforcement, and emergency management who are vital to assuring our state's most critical homeland security capabilities. Among our communities are 288 police departments, 39 sheriffs departments, 26 tribal police departments and eight Washington State Patrol Districts. Washington State boasts 88 hospitals that provide emergency room services, with 78 state certified trauma centers distributed throughout the state's Emergency Medical Services (EMS) system.

The Puget Sound area is home to the Federal Emergency Management Administration's (FEMA) Urban Search and Rescue Task Force –1, as well as a Disaster Medical Assistance Team (DMAT), and the 10th Civil Support Team (CST) and Washington National Guard Chemical, Biological, Radiological, Nuclear and conventional High Yield Explosives (CBRNE) Enhanced Response Force Package (NGCERFP) for Weapons of Mass Destruction (WMD) response. Additionally, the Puget Sound region is designated as one of the 11 Prepositioned Equipment Program (PEP) sites nationwide[23].

2.1.3 UASI Areas/TIC Plans

Urban Area Security Initiatives (UASI) formed in the state of Washington. There are no designated metropolitan areas within the state.

Table 5 UASI Areas/TIC Plans

Urban Area Security Initiative (UASI)	Jurisdiction	Tactical Interoperable Communications (TIC) Plan Title	TIC Plan Exercise Date	Point of Contact
Seattle Urban Area Security Initiative (UASI)	City of Seattle, King County, portions of Pierce County serviced by the Tacoma Regional Network and Snohomish County	Seattle Urban Area Tactical Interoperable Communications Plan (TIC Plan)	September, 2006	Assistant Chief James Pugel Seattle Police Department Field Support Bureau P.O. Box 34986 Seattle, WA. 98124-4986 206-684-5782 james.pugel@seattle.gov
Portland/Vancouver Urban Area Security Initiative (UASI)	Oregon Counties of Clackamas, Columbia and Multnomah and Clark County, Washington	Portland Tactical Interoperable Communications (TIC) Plan, April 2007	September 2006	Paul Pedersen Director, Washington County Consolidated Communications Agency Dispatch Center P.O. 6375 Beaverton, OR 97007 (503) 466-3780 ppedersen@wccca.com

Both the UASI regions in the state of Washington performed Tactical Interoperable Communications (TIC) exercise in September 2006. The results

[23] Washington Infrastructure Protection Plan (Draft), Sector Matrix, Appendix 5, February 2007, pg 4.

documented and may be accessed at http://www.dhs.gov/xlibrary/assets/grants-scorecard-report-010207.pdf.

State Map of the Seattle Urban Area Security Initiative (UASI)

Figure 8 Map of Seattle UASI

State Map of the Portland/Vancouver Urban Area Security Initiative (UASI)

Figure 9 Map of Portland/Vancouver UASI

2.2 Participating Agencies and Points of Contact

The strategic planning process initiated by the State Interoperability Executive Committee (SIEC) in August 2004, resulted in a Technical Implementation Plan (TIP) that is a critical milestone toward improving statewide public safety communications interoperability.

The SIEC members utilized a process that started with identifying state agency needs and requirements. The SIEC consulted with local and federal agencies, tribal nations, and vendors to obtain their feedback. Lists of participants are contained in the various planning documents that resulted from this process. These documents are available on line at http://isb.wa.gov/committees/siec/publications.aspx

Appendix D – Points of Contact contains a list of the participants of the Washington SCIP planning process, outreach efforts, and workshops.

The planning approach was highly interactive and the process included many opportunities for state, local and federal agencies, tribal nations, and vendors to provide commentary, feedback, and direction on the interim work products. We accomplished this through a series of information collection sessions that included[24]:

- Conducting regular SIEC meetings and SIEC Staff Advisory Work (SAW) Group meetings.
- Holding information gathering meetings in each of the nine homeland security regions of the state.
- Discussing reviews of vendor responses to a Request for Information (RFI) process.
- Conducting briefings with individual SIEC members.

We coupled our approach with the state's Enterprise Architecture (EA) planning process, and with the systems development process endorsed by the SAFECOM program within the federal Department of Homeland Security (DHS). The Washington Statewide Homeland Security Strategic Plan 2006 - 2011 was also a key consideration in the development of this plan.

Stakeholder regional forums were held in the nine Regional Homeland Security Coordination Districts during October, 2004, as part of the process that produced the *High-Level Final Statewide Public Safety Communications Interoperability Plan*.[25].

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[24] Technical Implementation Plan (TIP), November 2005, pg ii. http://isb.wa.gov/committees/siec/publications.aspx

High-Level Final Statewide Public Safety Communications Interoperability Plan, December 2004, Appendix 1 – Regional forum summaries, http://isb.wa.gov/committees/siec/publications/Communications.pdf

The SIEC membership was well represented at forum meetings. Seven members attended one or more meetings. They were:

- Washington State Department of Transportation, Gummada Murthy for John Conrad.
- City government (represented by the Association of Washington Cities), Alan Komenski.
- County government (represented by Washington State Association of Counties), Commissioner Mike Doherty.
- Local government fire departments (represented by the Washington State Fire Chiefs Association), Chief Jim Broman.
- Police Chiefs (represented by the Washington Association of Sheriffs and Police Chiefs), Chief Dave Stern.
- Sheriffs (represented by the Washington Association of Sheriffs and Police Chiefs), Sheriff Ken Irwin.
- Washington State Emergency Managers Association, Tom Griffith.

The findings of the regional forums meetings are detailed the in the *High-Level* Final *Statewide Public Safety Communications Interoperability Plan, December 2004, sections 5, 6 and 7*[26]. The key findings are reprinted here:

> ***4.3 Key findings of regional forum meetings***
>
> *Key findings are summarized in four categories: governance, funding, process and technology:*
>
> ***Governance***
>
> ***The State is difficult to work with***
>
> *During the forums and interview process, many representatives of local government made it clear that existing regulations, domain issues and lack of trust make it difficult to work together with state agencies. A statewide governance plan has not been instituted. A statewide system lifecycle plan has not been instituted. A consensus approach to regional and statewide issues has not been adopted.*
>
> ***Standards are lacking or non-existent***
>
> *Agencies express interest in having technical, equipment and operational standards, while at the same time expressing concerns regarding 'dictated' or 'unfunded mandated' standards by the state. Coordinated requirements planning have not been conducted statewide.*
>
> ***Line "A"***
>
> *Line "A" is an imaginary line (see FCC regulations for definition) south of the Canadian border (see Figure 4.2). All radio licenses above this imaginary line must be coordinated with Canada. Agencies impacted by Line "A" generally*

[26] Ibid, pg 24-44.

identified the coordination issue as a critical inhibitor to their ability to provide communications for their first responders.

Figure 4.2 – Line "A" map

Documented process, procedures and training

Users identified situations where documented processes and procedures are either lacking or do not exist. As a result, first responders are neither aware of the procedures nor comfortable in talking on another agency's radio channels. Inconsistent channel nomenclature, language, and radio codes also inhibit interoperability. In some instances, dispatch personnel are not aware of the interoperability capabilities available to the first responders.

Inconsistent approaches to planning and operations are hindering the effectiveness of interoperable communications

PSAP dispatch and communications capabilities are diverse and inconsistent. Communication and coordination of strategies and purchases are stove-piped across agencies and regions.

Funding

Funding Sources

Many agencies, especially those in the suburban and rural areas, identified the lack of stable funding sources (to procure, replace and support communications systems) as the single most important inhibiter to providing interoperable communications systems for first responders. Scarce funding resources will continue to impede achieving interoperability.

Some agencies went so far as to say that agencies are not currently providing adequate communications for their own first responders.

Unfunded mandates

Agencies are afraid of unfunded mandates that may be imposed by the state. Specifically mentioned were the equipment and radio system standards that are believed to be more expensive than what the agencies are using today. In most cases, this issue surfaced when the forums were discussing the digital Project 25 (P25) standard, which is perceived to be twice (or more) as expensive as non-P25 radios being purchased for analog VHF radio channels. (P25 is discussed at length in Section 7 – Technology and Appendix 5, Current and emerging technologies.)

Grant funding

Agencies recognize the limitations and weaknesses of the grant funding process. Grant funding does not provide a dependable funding source that would allow agencies to budget, plan, maintain, and support a migration path for communications systems.

Technology

Interoperability issues are present at multiple levels

Some agencies are unable to communicate within their own agency. Communications with other agencies is seen as a luxury. Existing radio frequency (RF) communications capabilities with Emergency Operations Centers' (EOC) infrastructures and between PSAPs was identified as marginal. Users are unable to communicate within and between local agencies, PSAPs and EOCs. Interoperability expectations vary widely, based on region and available funding.

Disparate radio systems (low-band, VHF, UHF, 800 MHz, trunked, analog, digital) do not interoperate easily if at all. Radio coverage and capacity is not consistent statewide. Statewide infrastructure is not supporting all geographic areas or county and local communications.

Frequency management and frequency sharing is not coordinated across the state. Future technologies are not being coordinated between statewide agencies.

Statewide mutual aid channels are not consistently usable

Today, the existing state mutual aid channels LERN (Law Enforcement Radio Network), NLEC (National Law Enforcement Channel), REDNET (Fire Service Mutual Aid Network), OSCCR (On Scene Command and Control Radio Network), DNR (Department of Natural Resources) Common, HEAR (Hospital Emergency Administrative Radio) and MEDNET (Medical Emergency Delivery Network) are not consistently available, usable, or reliable in times of need. In most situations, these frequencies are not being monitored by a dispatch center, poor coverage exists and limits usage, or the user does not know how to use – or is reluctant to use – the mutual aid channel.

The use of commercial communications systems is placing public safety agencies at risk

Many public safety agencies use one or more forms of commercial communications systems in their day-to-day operations. The most common communications is the use of cellular phones for a secondary voice communications system. Some agencies use cellular telephones as their primary communications technology. The forums also identified agencies using commercial paging systems for fire station alerting, call back, and command communications. A few agencies rent tower space for critical voice communications from commercial, non-government organizations without having a complete understanding of the security, restoration, or reliability issues related to those towers.

The first responder agencies acknowledge the risks. However, the decision to use 'outside' services is driven by the higher upfront cost of providing the service themselves.

Mobile data communications is becoming more important

The importance of mobile data communications varied widely from agency to agency. The agencies without mobile data communications capabilities did not feel that mobile communications is vital to interoperability operations. Agencies with mobile data often view mobile data communications as "mission critical." However, most agencies did agree that mobile data communications will be critical in the future as the number and capability of mobile applications continue to grow.

4.4 Conclusions

It is important to note that these issues are perceived by the participants, and as the saying goes: "performance is interesting, perception is everything." Whether true or not, the forum participants have raised these as important issues that should be dealt with. In subsequent sections, we will make recommendations to either correct the perception if it is inaccurate, or improve the actual situation as necessary.

Table 6 Agencies and Points of Contacts

Agency Name	*Agency POC*	*POC Email*	*POC Telephone (s)*
Northwest Tribal Emergency Management Council (NWTEMC)	Lynda Harvey Tulalip PD	lharvey@nwtemc.org	(360) 651-3295
Region 43	**NPSPAC 800 MHz Regional Review Committee Chair** Steve Taylor Manager, City of Tacoma Radio Communications	Staylor2@cityoftacoma.org	(253) 404-3790
Region 43	**NCC 700 MHz and 4.9 GHz Committee Chair** Jon (Wiz) Wiswell Manager, City of Seattle Radio System	jon.wiswell@seattle.gov	(206) 386-1215
SIEC Staff Advisory Work (SAW) Group	Scott Miller SIEC Program Manager Department of Information Services 1110 Jefferson Street SE. P.O. Box 42445 Olympia, WA 98594-2445	Scottm@dis.wa.gov	(360) 902-9888
Puget Sound Regional Interoperability Executive Committee (PSR-IEC)	Bill Schrier CTO Seattle	bill.schrier@seattle.gov	desk (206) 684-0633 cell (206) 255-2156
King County Regional Communications Board (KCRCB)	Bill Schrier CTO Seattle	bill.schrier@seattle.gov	desk (206) 684-0633 cell (206) 255-2156
Snohomish Emergency Radio System	Ron Solemsaas Manager	rsolemsaas@sers800.org	(425) 407-3945
Region IV Homeland Security Coordinating Council – Technical	Sheriff Gary Lucas	Garry.Lucas@clark.wa.gov	(360) 397-2366

Agency Name	Agency POC	POC Email	POC Telephone (s)
Committee			
Olympic Public Safety Communications Alliance Network (OPSCAN)	Patti Morris OPSCAN Grant Administrator, Clallam Co. Sheriff's Office	PMorris@co.clallam.wa.us	Phone: (360) 417-2260 Cellular: (360) 461-9008
Mason County Communications Interoperability Workgroup (MCCIW)	Mike Akin	makin@ci.shelton.wa.us	(360) 432-5140
Clark County Regional Emergency Services Agency (CRESA)	Keith Flewelling Technical Services Manager	Keith.flewelling@clark.wa.gov	(503) 423-7815
Metro Public Safety Communications Steering Committee	Steve Taylor Manager, City of Tacoma	staylor2@cityoftacoma.org	(253) 404-3790
Interoperability Executive Board, Spokane	Bob Lincoln Spokane Police	blincoln@spokanepolice.org	(509) 835-4521

2.3 Statewide Plan Point of Contact

Name: Scott Miller
Organization: State Interoperability Executive Committee (SIEC) Program Manager
Management and Oversight of Strategic Technologies Division Department of Information Services
Address: 1110 Jefferson Street SE.
P.O. Box 42445
Olympia, WA 98594-2445
Phone: (360) 902-9888
Email: scottm@dis.wa.gov

POC is not operating as a full time interoperability coordinator.

2.4 Scope and Time Frame (2007 – 2010)

The SCIP is a living document. Funding and resource restrictions will define the ultimate scope of the SCIP and will impose limitations on what interoperability initiatives' are considered within scope. The scope will update and change as the on going statewide strategic planning process matures.

The scope of the Washington SCIP is based upon, but limited to, the following sources:

- The SIEC's planned interoperability enhancements outlined in the Technical Implementation Plan (TIP).
- Local requirements identified during regional planning events held by the SIEC during development of this plan.
- Strategic initiatives' approved by the SIEC for the 2007-2009 Biennium.
- The interoperability requirements identified during strategic planning for 2009 World Police and Fire Games and the 2010 Winter Olympics Games.

This plan further refines the goals and objectives identified by the SIEC in the TIP for activities related to implementing statewide interoperability:[27] This plan continues the implementation strategy of the TIP by:

- Whenever possible assessing existing regional pilots to determine their applicability to statewide initiatives.
- If existing regional pilots are not available, choosing a pilot area, procuring, and implementing the proposed solution.
- Assessing the results of the pilot, modify as required and deploy statewide.

The scope of the SCIP applies to all public safety agencies and affiliated organizations with the expressed intent of maximizing limited resources available to local and regional jurisdictions through partnerships and locally driven collaborative planning where appropriate and funded.

> *In August 2004, the SIEC initiated this planning effort to identify potential solution options and develop this plan for improving the level of interoperability for state agencies and for providing a roadmap for federal, local, and tribal agencies to follow to be able to interoperate with state agencies[28].*

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[27] Technical Implementation Plan (TIP), November 2005, pg 64. http://isb.wa.gov/committees/siec/publications.aspx

[28] Technical Implementation Plan (TIP), November 2005, pg 12. http://isb.wa.gov/committees/siec/publications.aspx

The scope of the SIEC's TIP focuses primarily on the technology element of the SAFECOM Continuum, the governance structures necessary to deploy it, and the SOPs and training necessary to operate it. All the elements of the Interoperability Continuum are addressed through action plans contained in the Washington Statewide Homeland Security Strategic Plan 2006-2011[29]. The scope of the SCIP ties these action plans together in order to communicate the strategies for on-going statewide interoperability improvement efforts across all elements of the SAFECOM Continuum; governance, standard operating procedures, technology, training and exercises, and usage.

The SCIP focuses on the following strategic initiatives' approved by the SIEC for the 2007-2009 Biennium:

- Improving communication interoperability with existing tribal, state, federal, and local government agencies.
- Improving radio coverage for existing mutual aid channels statewide.
- Deploying new mutual aid channels statewide.
- Implementing the first phase of a P25 system in Region 1 in conjunction with 2009 World Police and Fire Games and the 2010 Winter Olympics Games.
- Developing the ability to integrate existing radio systems with other telecommunication technologies such as public telephone networks and satellite systems.
- Funding local participation in the proposed statewide system.
- Compliance with FCC mandated re-banding of the 800 MHz spectrum.

The following technology areas are the focus of the SCIP:

- Radio over Internet Protocol (RoIP)/Voice over Internet Protocol (VoIP). (Please see Section 2 Background for a detailed description of the multiple subsystems architecture.).
- Mutual-aid communications.
- Project 25 (P25) migration.
- Digital backbone capability that can be used to improve coverage at the local, regional and state level.

The time frame for implementing these strategic initiatives is projected to be six years when fully funded. Future implementation efforts will follow a phased approach linked to the availability of funding.

Any initiative that detracts from interoperable communications or exceeds the funded phased planning approach is considered outside the scope of this plan.

[29]Washington Statewide Homeland Security Strategic Plan 2006-2011, http://www.emd.wa.gov/grants/documents/2006-2011-team-wa-hls-strategic-plan_000.pdf

SCIP and TIP status checks and implementation reports are conducted bimonthly for the SIEC in order to provide updates on progress of strategic initiatives.

3. Methodology

The methodology and processes utilized by the Washington State interoperability Executive Committee (SIEC) to produce this statewide interoperability improvement plan closely followed the SAFECOM methodology that calls for a locally driven approach[30]. All local, tribal, federal, and non-state public safety and initial responder agencies were offered an opportunity to participate in the development of, and share in the benefits of, the future statewide public safety radio system. Their contributions to past efforts were, and will continue to be, important to statewide success. This plan includes strategies to further local, tribal, and other state and non-state agency participation through regional and statewide planning and coordination activities as identified below.

Strategy for Implementing All Components of the Statewide Plan

The SIEC adopted a highly interactive planning strategy for technology based interoperability improvement that began with identifying state agency needs and requirements through the TIP process. The SIEC continued this interactive strategy through the process that developed this locally driven SCIP.

Both planning processes included many opportunities for state, local, and federal agencies, tribal nations, and vendors to provide commentary, feedback, and direction on interim work products. This was accomplished through a series of information collection sessions that included:

- Conducting regular SIEC meetings and SIEC Staff Advisory Work (SAW) Group meetings.
- Holding information gathering meetings in each of the nine homeland security regions of the state. Attendees included local, non-governmental, state, tribal, and federal representatives.
- Discussing reviews of vendor responses to a request for information (RFI) process.
- Conducting briefings with individual SIEC members.
- August 22, 2007 Statewide Communications Interoperability Plan (SCIP) Workshop. Attendees included local, non-governmental, state, tribal, SIEC members, local elected officials, and federal representatives.

In 2004, the SIEC undertook a project to develop a comprehensive plan for designing and implementing a public safety wireless network interoperability solution for state agencies and other interested jurisdictions. This system was designed to satisfy the voice and mobile data interoperability needs of the public

[30] *SAFECOM* | SCIP Methodology – Executive Summary, http://www.safecomprogram.gov/NR/rdonlyres/C0327AC2-84ED-4E38-B9BE-04DDB09B45F9/0/VAExeSumFinal2.pdf

safety agencies throughout the state of Washington. The resulting strategic plan, the Technical Implementation Plan (TIP), was the final deliverable of this project.

Initiated[31] in August of 2004, this plan development project produced six additional major deliverables, which were the source information for creating the TIP. They included:

1. High-Level Final Statewide Public Safety Communications Interoperability Plan, December of 2004.
2. Statewide Interoperable Public Safety Radio Network – request for information, January of 2005.
3. Inventory of Public Safety Communications Systems Phase 2 Report, February of 2005
4. System Capabilities and User Needs Report, March of 2005.
5. Alternatives Report, May of 2005
6. System Architecture Report, August of 2005

These documents are available on the SIEC Web site at http://www.isb.wa.gov/committees/siec/publications.aspx

The *High-Level Final Statewide Public Safety Communications Interoperability Plan* documents the specific details that resulted from SIEC and SIEC Staff Advisory Work (SAW) Group meetings and interviews and the input gathered at forums held in each of the nine homeland security regions of the state.

The regional forums were attended by over 200 first responders and interested parties. These forums provided an excellent venue for cross group collaboration. Additional meetings were held with Public Safety Answering Point (PSAP) managers, tribal representatives, and other key public safety responder supporter. The participants and their contact information are listed in Appendix D – Points of Contact.

The objectives of the forums were to:

- Introduce the statewide interoperability planning project, review objectives, discuss the inventory and brainstorm ideas regarding systems, improvements and modifications for the future.
- Clarify the objectives for the project in terms of community needs and concerns, and the relationship of the project to any relevant strategic plans, government policy directions, and statutory or planning constraints.
- Identify feasible alternative solutions and clarify their relative merits.
- Prioritize issues and identify those key to the decision-making process.
- Identify performance objectives for key issues where possible.

[31] Technical Implementation Plan (TIP), November 2005, pg 9-10. http://isb.wa.gov/committees/siec/publications.aspx

The outcomes of these collaborative processes were the SIEC's adoption of the goals for the TIP, this SCIP, and detailed recommendations for governance, funding, and technology.

SIEC Outreach Plan

The SIEC's collaborative planning effort will continue to encourage local cross-jurisdictional and cross-disciplinary participation for development of the statewide plan through a detailed Outreach Plan, please refer to Appendix F – SIEC Outreach and Public Affairs Plan 2007/08. The Outreach Plan will facilitate an environment of collaboration, unity, and action among partners, stakeholders, influencers, and policy makers by providing a venue for open communications and information sharing. SIEC staff will actively participate with organizations and groups such as:

- Committee on Homeland Security (CHS).
- Regional Homeland Security Coordinators meetings.
- The Region 43 Regional Planning Committee (RPC).
- Urban Area Security Initiative (UASI).
- Regional Interoperability Committees.
- Washington State Transit Association Transit Security Council.
- Other organizations interested in improving public safety communications.

The Outreach Plan includes a set of goals, objectives, key messages, and list of target audiences. The plan is designed as part of a long-term effort for outreach and stakeholder communications in support of stated SIEC and SCIP goals and objectives. The plan proposes outreach activities that include public meetings and workshops, interactive web-based information, media and public awareness efforts, legislative outreach, and collaborative activities with partners and stakeholders. This is the SIEC's approach for sustaining local participation after the initial SCIP is completed.

The Outreach Plan, SIEC staff briefings and the statewide workshops ensured that the requirement for inclusion of the communications needs of the non-governmental organizations and tribal government entities were included in the planning processes.

To that end, the SIEC sponsored a Statewide Communications Interoperability Plan (SCIP) Workshop at the Tacoma Sheraton on August 22, 2007. This workshop provided the opportunity for local, state, tribal nations, public safety, and non-governmental agencies to provide input about their interoperable communications needs for inclusion in the SCIP development process. Special emphasis was placed upon briefing the PSIC grant specific criteria, but the purpose of the workshop was for statewide plan development.

Preparation for this meeting included dissemination of an initial draft of the SCIP to local jurisdictions and agencies, state agencies, tribal nations, and non-governmental organizations (NGO). The draft plan was given full statewide

exposure through the SIEC Outreach Program and it was posted to the SIEC website.

The SCIP Workshop was designed to further develop the plan by identifying a) current capabilities, b) desired goals and end states, and c) implementation steps necessary to bridge existing gaps in communications interoperability. Approximately 130 participants from tribal, state, local, and NGO organizations attended this workshop. The workshop deliverables and additional comments received from stakeholders, who were unable to participate in person, were evaluated and incorporated into the final draft SCIP.

PSIC Grant Consideration Methodology

In order to ensure that this methodology considers PSIC grant requests in support of the statewide planning effort, the Adjutant General of Washington Military Department, acting as the State Administrative Agent (SAA), selected and chartered the State Interoperability Executive Committee (SIEC) to serve as the coordination point for the review, prioritization and selection of project proposals for the PSIC grant requests.

Tribal Governments Interoperable Communications Needs

The Governor's Office of Indian Affairs (GOIA) serves as liaison between the state and the 29 federally recognized tribes in the state of Washington. The SIEC works closely with GOIA and the Regional Homeland Security Coordination District (RHSCD) process, as outlined in Section 2.1.2 Region/Jurisdictions, to ensure tribal participation – along with that of local, state, and federal government – in both policy development and outreach efforts.

Tribes in Washington State share the same risk factors as the communities they neighbor for natural disasters such as earthquakes, floods, and volcanic eruptions, wild land fires, crimes, or other emergency situations. Many have emergency responders and communications resources of their own.

Tribal governments are informed and involved in the state's plans for improving interoperability in Washington through public meetings and workshops, interactive web-based information, listserv outreach, media and public awareness efforts, legislative outreach, and collaborative activities with partners and stakeholders.

This outreach effort included specific solicitation of the tribal governments for their Interoperable communications needs. This solicitation occurred through the RHSCD process during the SCIP development and PSIC grant planning activities. Many tribal nations chose to participate in the PSIC grant process through their membership in the RHSCDs. Their needs are a part of the PSIC grant Investment Justifications for those regions. However, some tribal nations did not choose to participate or expressed no interest in working together on the collaborative interoperability projects. The SIEC received no independent PSIC grant requests from a tribal nation. All tribal requirements received are imbedded in the regional interoperability projects.

The SIEC is confident that the outreach effort was satisfactory.

The needs of tribal nations have been addressed by projects such as, Olympic Public Safety Communications Alliance Network (OPSCAN), a department of Homeland Security funded project. The Makah tribe, the Lower Elwha, Klallam tribe, the Jamestown S'Kallam tribe, and the Quileute tribe have been actively involved in interoperability planning and are connecting to the OPSCAN system.

In the Seattle urban area the King County emergency radio system has two tribal participants, the Snoqualmie and the Muckleshoot tribes.

The SIEC continues to solicit the participation of other tribal nations' in other such initiatives. Additionally, their needs are being addressed by the SIEC Outreach Program where they have been documented through workshop, regional interoperability committees.

Non-Governmental Organizations (NGO)

Public safety non-governmental organizations, emphasizing those that are critical infrastructure providers, are also involved in policy development and outreach efforts. Presently, these NGOs include, but are not limited to: hospitals, volunteer fire response, utilities, amateur radio emergency services (ARES), radio amateur communications emergency services (RACES), and transportation entities. They are involved through public meetings and workshops, interactive web-based information, listserv outreach, media and public awareness efforts, legislative outreach, and collaborative activities with partners and stakeholders.

The needs of the NGO have been addressed by projects such as, Olympic Public Safety Communications Alliance Network (OPSCAN), a department of Homeland Security funded project. The SIEC continues to solicit their participation in other such initiatives. Additionally, their needs are being addressed by the SIEC Outreach Program where they have been documented through workshop, regional interoperability committees.

TICP Incorporation

This SCIP incorporates the highly detailed tactical communications planning that is on-going in the two UASI areas established in the state of Washington. The UASI groups published Tactical Interoperability Communications Plans (TICP) that is valuable sources of interoperable communications knowledge and procedures. The TICPs are incorporated into the SCIP directly or by reference to ensure synchronization of the plans, ensure attainment of plan goals and objectives, and to elicit continued coordination between the groups.

The TICP process contains an interoperability assessment component for measurement of the maturity of communications interoperability in a UASI, metropolitan area or region. The Department of Homeland Security (DHS) evaluates UASI interoperability plans and issues Tactical Interoperable Communications Scorecards that assess and evaluate Governance, Standard Operating Procedures (SOP), and Usage elements of the TICP against the

SAFECOM Interoperability Continuum. The on-going reassessment of TICP goals and objectives provide for the realignment or adjustment of these plans to compensate for identified scorecard deficiencies or unforeseen variances in the plans.

The SIEC encourages and supports the establishment of regional interoperability committees (RIC) in order to encourage interoperability improvement and synchronize state and regional planning.

These planning entities can, among other things, address the requirements of the TICP scorecard by improving governance and refining SOPs.

Establishing an RIC creates an organized process for synchronizing the existing local and regional communications strategies in order to identify longer term interoperability goals across multiple jurisdictions and levels of government. A regional organization can facilitate interoperability by adopting the detailed work of the UASI TICPs and tailoring that information for local use during training and incident response.

The Outreach Plan and RIC model enhances the SIEC's ability to foster cooperation, coordination and strategic planning among cross-jurisdictional and cross-disciplinary public safety organizations and emergency response organizations.

4. Current Statewide Assessment

Interoperability Environment

While the state of Washington has no single consolidated state owned and operated statewide public safety wireless communications network, there are existing multi-jurisdictional and multi-agency regional interoperability networks throughout the state. In many cases these are operated by local multi-jurisdictional organizations that include state agencies. However, there exist significant gaps in interoperability in a number of locations throughout the state.

Several state government agencies including, Washington State Patrol, Washington State Department of Transportation, Washington State Department of Natural Resources, Washington Military Department, and Washington State Department of Corrections operate radio systems in different frequency bands that have partial statewide coverage, but each is governed by the individual state agency. Much shared infrastructure exists between various state agencies and the local jurisdictions, such as microwave backbones and mutual aid channels. However, there are some regions with a high degree of interoperable communications and other regions with less capability and coverage. The technologies in use throughout the state are at various stages of their life-cycles and face planning pressure from narrow banding, 800 MHz re-banding, changing federal standards and the high cost of modernization.

There is a great disparity in technology, coverage, and interoperability throughout the northwest.

A key finding from the Statewide SCIP Workshop assessment was that operability is lacking in many regions of the state. Basic coverage is necessary before interoperability is possible or before it will be made a high priority by local jurisdictions.

The SIEC recognizes that the 2005 inventory conducted as part of their previous interoperability assessment, *Inventory of Public Safety Communications Systems – Phase 2 Repor*t, (the Phase 2 Report), February 2005[32], (excerpted in Appendix E) is incomplete from the local perspective. A current assessment of the statewide interoperability environment is necessary in the near future.

Communication Assets Survey and Mapping (CASM)

The SIEC adopted a strategy, as outlined in Section 5.4, which encourages the statewide use of the Communication Assets Survey and Mapping (CASM) tool to establish a new baseline for the state of Washington that adequately addresses multi-jurisdictional/multi-agency interoperability at all levels of government. The CASM tool, provided by the DHS Interoperable Communications Technical Assistance Program (ICTAP) can be used to inventory the communications

[32] http://isb.wa.gov/committees/siec/publications/Public%20Safety%20Committee.pdf

assets in the state. However, CASM data collection and display capabilities are limited to land mobile radio (LMR) voice interoperability.

The CASM tool is a web-based tool that agencies can use to store the interoperable communications equipment inventory and current radio communications infrastructure information. This collected data will reside in a secure database that only authorized participating agencies will be able to access.[33]

As part of the TICP effort, Clark County, Snohomish County, King County, and Pierce County populated the CASM tool. As a part of the OPSCAN consortium effort and planning for the 2010 Winter Olympic Games, seven additional counties will also populate the CASM tool.

Statewide Assessment

This statewide assessment is based on the elements of the SAFECOM Interoperability Continuum. The Interoperability Continuum is a metric to use as an interoperability assessment tool to measure and judge the overall ability of jurisdictions to interoperate.

This tool helps the emergency response community and local, tribal, state, and federal policy makers measure, analyze and address critical elements required for success as they plan and implement their short and long-term interoperability efforts. The Washington SCIP follows this SAFECOM methodology.

The Continuum depicts the core facets of interoperability according to the stated needs and challenges of the emergency response community. The *elements* of interoperability defined in the Continuum include governance, standard operating procedures (SOPs), technology, training and exercises, and usage.

Because the elements of the Continuum are *interdependent*, progress in all aspects of interoperability is essential and the fundamental objective of the SCIP strategic planning process.

[33] http://www.ojp.usdoj.gov/odp/docs/CASM_trifold8Final.pdf

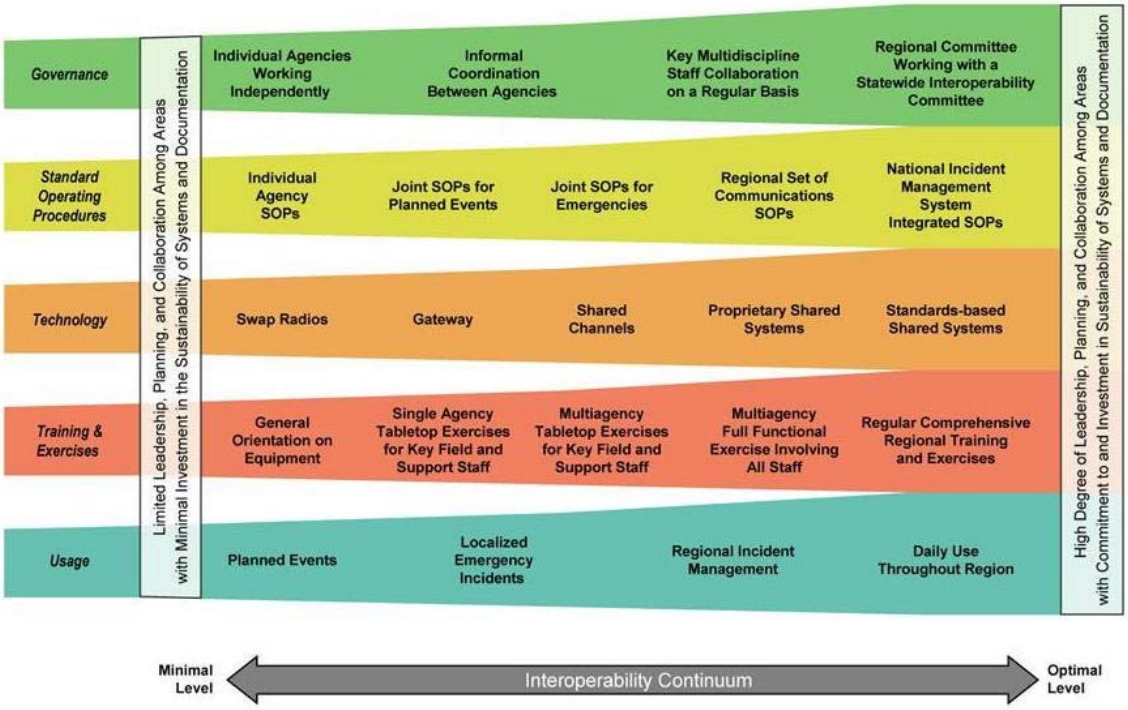

Figure 10 SAFECOM Interoperability Continuum

Governance

Washington is well served by a highly organized Governance model that promulgates the facets of interoperability throughout the state. The State Interoperability Executive Committee (SIEC) serves as a part of the state of Washington's multi-jurisdictional Domestic Security Infrastructure, "Team Washington." "*The vision and collective commitment of TEAM WASHINGTON is to reduce our vulnerabilities and defend against the disasters created by domestic attacks and natural or technological hazards.*"[34]

This organization facilitates decision making and information sharing across the state's public safety disciplines at all levels of government. Participation on Team Washington ensures the Technology Element of the continuum is at the forefront of statewide interoperability discussions.

The SIEC is represented in the Region 43 Regional Planning Committee (RPC) process through the individual participation of many SAW Group members. Region 43 ensures that the communication needs of state and local public safety authorities are met through effective frequency management.

The RPC serves as a vehicle for local and regional jurisdictions to participate in the process by which frequencies are allocated by the FCC. Region 43 produced

[34] Washington Statewide Homeland Security Strategic Plan 2006 – 2011, pg2, http://www.emd.wa.gov/plans/documents/WAHLSStrategic2006-2011.pdf

frequency plans for state of Washington use of 700 MHz, 800 MHZ and 4.9 GHz spectrum.

Governance Assessment: Moderately High

The operations of a formal SIEC and SAW Group represent a moderately high degree of leadership, planning, and collaboration among key multi-disciplinary statewide representatives that occurs on a regular basis.

SIEC effectiveness can be enhanced by supporting the creation of regional interoperability committees. Regional interoperability committees create a process for the SIEC to collaborate more closely with regional technical representatives in statewide technology matters. This process can facilitate achievement of the optimal level of governance.

Standard Operating Procedures

Washington complies with federal requirements for preparedness assistance through adoption and integration of the National Incident Management System (NIMS). NIMS enables responders at all levels to work together more effectively and efficiently to manage incidents.

The Washington State Emergency Management Division works closely with all governmental and tribal response, emergency preparedness, and incident management organizations to ensure statewide compliance with all federally mandated NIMS compliance activities.

Washington State's NIMS compliance levels are monitored and reported through the Governor's Governmental Management and Accountability and Performance (GMAP) forum. The Governor and her leadership team meet with agency directors approximately twice a month to evaluate agency results. These meetings provide an opportunity for candid conversations about what is working, what is not, and how to improve.

The Tactical Interoperable Communications Plans (TICP) prepared by the Seattle and Portland/Vancouver UASIs are very detailed plans for coordinating cross jurisdictional mutual-aid. The TIC Plans are intended to document what interoperable communications resources are available within the urban area, who controls each resource and what rules of use or operational procedures exist for the activation and deactivation of each resource.

Specifically, the plans are intended to be used by the first responder disciplines that would respond to the scene of an emergency, as well as other emergency response disciplines requiring coordination during the response effort.

TICPs represent standard operating procedures that collect interoperability information for use, where applicable, to jurisdictions statewide.

SOP Assessment: Moderate

By proclamation of the Governor, the state of Washington adopted a NIMS compliance process that tracks and reports regional compliance to NIMS criteria.

This process represents a highly developed preparedness system that over time will sustain the systems and documentation desired for optimal interoperability.

The state has established processes for compliance training at both state and local levels. Emergency Operations Centers across the state utilize NIMS compliant information technologies to manage incidents. However, many first responders and emergency responders located outside of the major metropolitan areas are disadvantaged by a lack of widely available mobile data systems that are necessary to access the information systems at the incident scene.

Technology

The state of Washington has no integrated, centrally managed, and mutually supported statewide common land mobile radio system. Although various radio and data systems exist across the state, some urban regions enjoy a high degree of local/regional interoperability. But even in these area systems are disparate, fragmented and are at different stages of there lifecycle. Future systems are not collaboratively planned to minimize cost, reduce duplication of effort and share infrastructure.

Even successful locally driven interoperability initiatives such as multiple subsystems architecture approach of the OPSCAN consortium lack a future vision for an integrated standards based network.

SOPs facilitate adequate use of the old technologies, however the cross patching of channels, sharing of radio caches, and a vast array of radio communication means makes the use of the various systems cumbersome, complicated, inefficient to manage, and costly to maintain.

Many jurisdictions lack basic coverage that further complicates operations, communications, and interoperability.

Technology Assessment: Moderately Low

The use of swapped radio caches, gateways, shared channels, and proprietary technology is prevalent throughout the state. The lack of modern, integrated, and standards based shared mobile radio technology and widely available mobile data systems hinder access to the important incident management information systems and common operational pictures.

Deployment of internet protocol (IP) based interfaces to tie disparate radio systems of various levels of technology together, based on the OPSCAN RoIP or similar model, is a viable regional interim solution for improved interoperability and enhanced coverage.

Training and Exercises

Washington conducts regular comprehensive regional training and exercises that are inclusive of interstate and international participation. These exercises prepare the state to respond to a wide variety of emergency situations varying in scale from local response to that requiring assistance from or providing

assistance to outside jurisdictions, other states, the federal government, and Canada.

Training and Exercises Assessment: High

Although disadvantaged by inefficient and outdated land mobile radio technology. However, the state will benefit from added emphasis on locally driven training opportunities and development of national standards for Communications Unit Leader (COML) certification courses.

Usage Assessment: Moderately Low

Although disadvantaged by inefficient and outdated technology, interoperable systems use varies widely throughout the state's various jurisdictions. Some users are more familiar than others with use of interoperable systems. Local leadership emphasis on frequent use, SOPs, and training are needed to increase familiarization with interoperable systems. .

Interoperability Accomplishments and Improvements

Many accomplishments have been made in communications interoperability throughout the state of Washington:

- Olympic Public Safety Communications Alliance Network (OPSCAN): The Department of Homeland Security has stated that this project is the best example of a "rural interoperability solution" in the United States. Other adjacent counties, cities, and transit agencies have requested connection to the OPSCAN system.
- On Scene Command and Control Radio System (OSCCR) Phase 1: It is a statewide command and control radio network that provides interoperability between on scene incident commanders, responding local and state agencies, and the state Emergency Operations Center (EOC) when they do not share a common radio system.
- The SIEC's Outreach and Public Affairs Plan: This program includes a set of goals, objectives, key messages, and a list of target audiences. The plan is designed as part of a long-term effort for outreach and stakeholder communications in support of stated SIEC and SCIP goals and objectives.

State's Interoperability Challenges

The state's interoperability challenges are many.

The challenge[35]: Public safety officers, firefighters, and emergency medical service providers are too often hampered in their ability to effectively respond in a coordinated manner to crimes, disasters, fires, and medical emergencies because their communications systems are often incompatible.

[35] Technical Implementation Plan, November 2005, pg 7, http://isb.wa.gov/committees/siec/publications/TIP_v8.0_FINAL_11302005.pdf

Furthermore, many jurisdictions throughout the state lack coverage and do not have enough channels to effectively communicate at the tactical level.

The facts are[36]:

- One in three public safety agencies have experienced operational difficulties due to lack of wireless interoperability.
- Jurisdictions have invested in different and incompatible wireless technologies over the past 20 years.
- Public safety communication is spread over ten bands of spectrum.
- Washington's diverse geography presents logistical problems.

In addition to solving the inherent problems caused by the incompatible legacy communications equipment, to be successful, the state must solve these widely recognized issues:

- Limited and fragmented planning.
- Lack of coordination and cooperation.
- Limited and fragmented funding.
- Limited and fragmented radio spectrum[37] and coverage.

This problem is multi-faceted and was created over a long time period. It cannot be solved with a single-faceted approach. The solutions proposed in this plan are based on a locally driven, collaborative process that will be accomplished through a long-term strategy composed of planning, execution, assessment, and repetition of successful projects.

Additional challenges involved with merging state agency networks and opening them to participation by local, regional, and tribal agencies are:

- Funding.
- Incompatible legacy equipment.
- Addressing disparate agency mission specific communications requirements.
- Development of the governing policies that will enhance interoperability.
- Management and championship of the statewide momentum toward interoperability.
- Cooperation and coordination of stakeholders across the state.
- Local jurisdiction's strong philosophical belief in a home-rule environment.
- Coordination and partnerships.
- Spectrum management.
- Standards and technology changes.
- Network security.

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[36] From *Focusing on Emergency Communication Systems Interoperability*, which can be found at http://www.isb.wa.gov/committees/siec/publications/Focusing.pdf

[37] *Based on Why Can't We Talk*? A Guide for Public Officials. National Task Force on Interoperability. February 2003.

The following interoperability initiatives are currently underway throughout the state of Washington.

2007-09 State Budget Activities:

The Washington State Patrol (WSP), acting as the Lead Agency for state interoperability initiatives will:

- Expand the SIEC Outreach and Public Affairs Program.
- Develop a technical assessment of the OPSCAN project to determine suitability for employment as a statewide RoIP network model.
- Deploy four tactical RoIP gateway units.
- Continue interagency planning for the 2010 Olympic Games and SIEC sponsored statewide interoperability projects. These proposals will develop a Project 25 trunked system, infrastructure build-out that enables the expansion of mutual aid radio coverage, and the deployment of RoIP technology in Homeland Security Region 1. Region 1 includes the northwest section of the state and aligns resources with emerging needs associated with preparations for the 2009 Police and Fire Games and 2010 Winter Olympics scheduled in British Columbia, Canada.

On Scene Command and Control Radio System (OSCCR) Phase 2:

Once funded, WSP, in concert with Washington State Department of Transportation (WSDOT) and the state Emergency management Division (EMD) are positioned to expand the statewide command and control radio network.

Department of Justice Integrated Wireless Network (IWN) Deployment Project:

The Lead Agency continues to develop a partnership with the DOJ for use of excess IWN capacity for state interoperability projects that include federal, state, local, tribal, and non-governmental users.

Olympic Public Safety Communications Alliance Network (OPSCAN):

The OPSCAN consortium continues to encourage other jurisdictions to join the successful organization of public safety agencies working together to address communications interoperability needs from the local and regional perspective. An OPSCAN Phase II project will pursue implementation of mobile data systems.

Regional Homeland Security Coordination Districts (RHSCD).

The jurisdictions of the state of Washington are organized into nine Regional Homeland Security Coordination Districts (RHSCD).

These organizations encompass all 39 counties and all cities, as well as all the tribes within the state. The bodies meet locally on a regular basis discuss coordination, planning, training, and exercise issues. The regional coordinators meet monthly with the state Homeland Security Coordinator to address issue of statewide concern such as training and exercises, grant applications, state preparedness reporting, and administrative matters. The bodies typically have

representation from law enforcement, fire, public health, emergency management, emergency medical services, public works, hospitals, school districts, water districts, and regional transportation, etc. Cross disciplinary representation may vary by region but the cores of the groups are public safety officials and public service officials.

Two RHSCD and one county from Region 1 have further organized into the Seattle Urban Area Security Initiative (UASI). The Seattle UASI consists of Region 5 (Pierce County), Region 6 (King County) and part of Region 1 (Snohomish County). Additionally, part of region 4 (Clark County) belongs to the Portland, Oregon, UASI.

The OPSCAN consortium in RHSCD 2 administers the policies, procedures, and training programs necessary to ensure proper functionality, operations, and governance for this regional system. OPSCAN is represented on the SIEC Staff Advisory Work (SAW) Group and is an important contributor to the statewide interoperability effort.

Cross-Disciplinary Coordination

These organizations, along with the regional interoperability committees, SIEC, and the SAW Group ensure there is cross-disciplinary coordination occurring in the state of Washington.

700 MHz Regional Planning

The Region 43 700 MHz Plan was formally approved by the Federal Communications Commission (FCC) on June 27, 2006 and was the seventh 700 MHz regional plan formally approved by the Commission. The Regional Planning Committee has been holding regular meetings both preceding Plan approval and following Plan approval.

The Committee has received and is processing multiple applications for spectrum under the Plan from multiple agencies that are actively engaged in constructing systems in this band.

Capability Resource Allocation Display (CAPRAD) Database entry for state of Washington 700 MHZ:

Table 7 CAPRAD Database Entry for Washington

Call Sign	License Status	Radio Svc Code	Antenna Sites	Licensee Name
WPTZ781	Active	SL	0	State of Washington

800 MHz Re-banding

The Federal Communications Commission (FCC) entered into a consensus agreement with Sprint/Nextel Communications to migrate public safety radio systems in the 800 MHz radio band to other frequencies within that same frequency band. Currently, commercial cellular communications occupy frequencies adjacent to public safety frequencies, increasing the risk of harmful interference with public safety communications. The migration (referred to as re-banding) relocates public safety radio operations and commercial cellular communications to frequencies far enough apart to reduce the risk of interference.

The FCC designated four nationwide Waves (Wave 1 – 4) and two Stages to accommodate the scheduling and coordination of re-banding activities. These waves are based on geographically defined regions across the United States, with Wave 1 going first and Wave 4 being last. Wave 4 includes those areas that are subject to the coordination and negotiation of frequency assignments along border regions with Mexico and Canada.

Stage 1 involves those channels located in the lower end of the 800 MHz spectrum (channels 1 – 120), which must be cleared to allow National Public Safety Planning Advisory Committee (NPSPAC) licensees to be moved into that portion of the spectrum, away from cellular and other commercial wireless service providers. This migration affects the Washington State Department of Transportation (WSDOT) and the Department of Corrections (DOC) under Wave 1 and Wave 4, as well as the multitude of jurisdictions utilizing this spectrum.

WAVE 1: On December 8, 2006 the state of Washington received a fully executed Wave 1 Stage 1 frequency reconfiguration agreement (FRA) from Sprint/Nextel. In March of 2007 the Department of Information Services (DIS) executed a Wave 1 Implementation Services agreement for contracted Wave 1 engineering and consulting services. A Wave 1 Implementation Project kick-off meeting and equipment inventory were conducted on March 20-21, 2007. Wave 1 re-banding equipment identified within the FRA was received from Sprint/Nextel. The 800 MHz project team revised the original Wave 1 re-banding plan and project schedule to reflect cost and time allowances negotiated under the Wave 1 FRA.

Wave 1 Implementation continues to progress in the south central, Olympic, and southwestern regions of Washington state. A delay in the completion of projected Wave 1 Implementation activities is anticipated due to slow response from Sprint/Nextel for the repair or replacement of defective equipment on loan to the state as part of the agreement. The project team anticipates Wave 1 implementation, which impacts approximately 750 mobile and 225 portable devices, will be completed on September 17, 2007; approximately 60 days after the performance period originally specified in the FRA.

WAVE 4: On February 5, 2007 the state received notice from the 800 MHz transition administrator (TA) indicating that call signs listed under Wave 4, Stage

1 (Channels 1 -120), of the TA's Regional Prioritization Plan would be subject to a 90 day extension and the mediation period would be postponed until April 3, 2007. On March 30, 2007 the state of Washington received a second notice of extension from the 800 MHz TA. The notice stated that call signs listed under Wave 4, Stage 1 (Channels 1 -120), of the TA's Regional Prioritization Plan will be subject to an additional 90-day delay extension of the mandatory negotiation period. This extended the previously postponed start of the mediation period from April 2, 2007 to July 1, 2007.

On July 18, 2007 the state of Washington received a third notice of extension from the 800 MHz Transition Administrator (TA). The notice stated that call signs listed under Wave 4, Stage 1 Channels 1-120) of the TA's Regional Prioritization Plan will be subject to an additional 90 day delay extension of the mandatory negotiation period. This notice extends the postponed start of the mediation period to October 1, 2007. This notice also extends the filing freeze on new 800 MHz license applications in border areas to November 14, 2007.

The proximity of the state to the international border area (U.S. and Canada) and the lack of an FCC approved band plan for this region necessitated an extension of the start date for Wave 4 re-banding activities. However, none of the extensions provide for a change in the scheduled re-banding completion date of June 30, 2008. Therefore, the re-banding project team will proceed with Wave 4 pre-planning efforts in anticipation of receiving an approved and negotiated regional band plan from the FCC.

Wave 4 Implementation for the remainder of Washington State is waiting for FCC approval of the proposed Regional 43 (Washington) Regional Planning Committee frequency plan for re-banding and the negotiation of the plan between the U.S. Department of State and Canada.

Narrow-Banding Of Frequencies below 512 MHz

The status of narrow-banding of frequencies below 512 MHz in the state of Washington is that it is in progress.

The SIEC ensures widest dissemination of all information concerning the 2003 Federal Communications Commission's (FCC) mandate that requires all public safety systems operating in bands below 512 MHz to transition from traditional 25 kHz-wide channels to more spectrally efficient 12.5 kHz channels by January 1, 2013.

The majority of public safety licensees in the state of Washington still operate in bands below 512 MHz. These agencies are aware of the FCC requirement to migrate to 12.5 kHz and are managing the transition at the appropriate levels in accordance with their organizational governance structure and funding levels.

The SIEC is also aware of the FCC's announced recommendation regarding the transition to the P25 Phase II 6.25 kHz bandwidth should technology mature prior to the 2013 deadline. The SIEC assessed this future requirement and

determined that migration cost and organizational impact are impossible to predict in the absence of standard 6.25 kHz technology.

The SIEC encourages all agencies to consider the FCC intent toward 6.25 kHz bandwidth migration when planning and purchasing 12.5 kHz bandwidth technology. All concerned should monitor the maturity of 6.25 kHz technology and, when appropriate, purchase 12.5 kHz technology that is upgradeable to 6.25 kHz technology. Agencies considering the migration to 6.25 kHz should also consider the potential impact of system coverage in their planning efforts.

An important deadline influencing planning decisions January 1, 2011, after which:

- The FCC will not grant applications for new voice operations or applications to expand the authorized contour of existing stations that use 25 kHz channels. Only narrowband authorizations will be granted.
- The FCC will prohibit manufacture or importation of new equipment that operates on 25 kHz channels. This will reduce the availability of new equipment for legacy radio systems and will affect how agencies maintain and upgrade older systems.

The following frequencies are identified for the use as stated. Approval and authorization by the agency identified is needed prior to being used.

Table 8 Statewide Frequencies

Use	Frequency	Approval/Authorization
On-Scene Command and Control (OSCCR)	156.135 MHz	Washington State Emergency Management Division (EMD)
Search and Rescue (SAR)	155.160 MHz	Washington State Emergency Management Division (EMD)
State Fire Control Channel - REDNET/FIRECOM	153.830 MHz	Washington State Association of Fire Chiefs (WSAFC)
Law Enforcement Radio Network (LERN)	155.370 simplex	Washington Association of Sheriffs and Police Chiefs (WASPC)
National Law Enforcement Channel (NLEC)	155.475 MHz	Washington State Patrol (WSP)
Hospital Emergency Administrative Radio (HEAR)	155.340 MHz or 155.280 MHz	Federal Communications Commission (FCC)
MED-COM Network	462.950 through 468.175 MHz	Washington State Dept Health

The National Coordinating Committee (NCC) 700 MHz Regional Planning Committee (RPC) Regional Plan for the Public Safety 700 MHz Band in Region 43 (Washington) lists the following interoperability channels for use by agencies and jurisdictions:

3.2 Existing Interoperability and Mutual Aid Systems

There are a significant number of established, non-700 MHz interoperability systems and standards in place within Washington State. The listing below is relatively complete and provides users of this plan information about non-700 MHz interoperability opportunities in the Region. Details regarding planned interoperability in the 700 MHz band are included in Section 6 of this document.

Table 9 Existing Statewide or Regional Interoperability Channels

Channels	*TX Frequency*	*RX Frequency*	*Statewide/Regional*
Law Enforcement Radio Network (LERN)	*155.370 MHz*	*155.370 MHz*	*statewide*
National Law Enforcement Network (NLEC)	*155.475 MHz*	*155.475 MHz*	*statewide*
On-Scene Command and Control Radio (OSCCR)	*156.135 MHz*	*156.135 MHz*	*statewide*
Comprehensive Emergency Management Network (CEMNET)	F1 - 45.20 MHz	F1 - 45.20 MHz	*statewide*

Channels	***TX Frequency***	***RX Frequency***	***Statewide/Regional***
	F2 – 45.36 MHz F3 – 45.48 MHz	F2 – 45.36 MHz F3 – 45.48 MHz	
FIRECOM / REDNET	*153.830 MHz*		*statewide*
DNR Common	*151.415 MHz*		*statewide*
Search and Rescue (SAR)	*155.160 MHz*		*statewide*
VCALL	155.7525 MHz	155.7525 MHz	
VTAC	VTAC1 151.1375 VTAC2 154.4525 VTAC3 158.7375 VTAC4 159.4725	VTAC1 151.1375 VTAC2 154.4525 VTAC3 158.7375 VTAC4 159.4725	
National Calling Channel (ICALL):	*821.0125 MHz*	*866.0125 MHz*	*national*
National Working Channel (ITAC-1):	*821.5125 MHz*	*866.5125 MHz*	*national*
National Working Channel (ITAC-2):	*822.0125 MHz*	*867.0125 MHz*	*national*
National Working Channel (ITAC-3)	*822.5125 MHz*	*867.5125 MHz*	*national*
National Working Channel (ITAC-4):	*823.0125 MHz*	*868.0125 MHz*	*national*
STATEOPS-1 – Fire/EMS	*822.5375 MHz*	*867.5375 MHz*	*statewide*
STATEOPS-4 – Fire/EMS	*822.6125 MHz*	*867.6125 MHz*	*statewide*
STATEOPS-2 – Law Enforcement	*822.5625 MHz*	*867.5625 MHz*	*statewide*
STATEOPS-5 – Law Enforcement	*822.6375 MHz*	*867.6375 MHz*	*statewide*
STATEOPS-3 – General Government	*822.5875 MHz*	*867.5875 MHz*	*statewide*
King County Mutual Aid Radio System (KC MARS) repeater system - VHF	*155.190 MHz for repeater output*	*154.650 MHz for repeater input*	***Regional***
King County Mutual Aid Radio System (KC MARS) repeater system - UHF	*460.550 MHz repeater output*	*465.550 MHz for repeater input*	***Regional***
MEDCOM Network Channels Med 1- Med 10	462.950 through 468.175 MHz	468.0-468.175 MHz	*statewide*
Hospital Emergency Administrative Radio (HEAR)	155.340 and 155.280		*statewide*
Organized Crime Drug	168.8625	164.5500	*nationwide*

Channels	TX Frequency	RX Frequency	Statewide/Regional
Enforcement Task Force (Repeated)			
Organized Crime Drug Enforcement Task Force (Simplex)	164.5500	164.5500	*nationwide*
Organized Crime Drug Enforcement Task Force Treasury (Simplex)	166.4625	166.4625	*nationwide*
DOE/DCIS	163.1000	163.1000	*nationwide`*
EMS Medical Coordination (MED-1)	463.0000	463.0000	*Regional*
EMS Medical Coordination (MED-2)	463.0250	463.0250	*Regional*
			statewide

The following excerpt is taken from the Region 43 (Washington State) 700 MHz Plan[38].

- ***Law Enforcement Radio Network (LERN)*** *– 155.370 MHz is a common police radio frequency for statewide use by state and local law enforcement agencies during periods of local disaster, other emergencies, or operations requiring intra or inter agency coordination. LERN consists of two frequencies within the State of Washington. The frequency 155.370 MHz is designated as the* ***primary*** *LERN frequency and is operated in a 'simplex' mode.*
- ***National Law Enforcement Network (NLEC)*** *– 155.475 MHz is a national law enforcement frequency available for use in police emergency communications networks operated under statewide law enforcement emergency communication plans. The LERN plan serves as Washington State's statewide law enforcement emergency communication plan. LERN consists of two frequencies within the state of Washington. The frequency 155.475 MHz is designated as the* ***secondary*** *LERN frequency. NLEC (155.475 MHz) has been licensed statewide by the Washington State Patrol as dictated by the LERN plan. Only the Washington State Patrol is authorized to license and operate base stations on 155.475 MHz.* The Department of Emergency

[38]Regional Plan for the Public Safety 700 MHz Band in Region 43 (Washington) January 2005, pg 9-12

http://www.region43.org/docs/700mhz/20050126FinalRegion43_700MHzPlanForFCCTransmittal.pdf

Management uses NLEC in times of emergency utilizing the WSP base stations. *With approval of the LERN Advisory Committee, local agencies may gain authorization to operate on 155.475 MHz. in compliance with the LERN plan. NLEC (155.475 MHz) has three defined levels of traffic priority. An agency desiring to participate in LERN shall address a letter to the chairman of the LERN Advisory Committee, who shall provide the agency with a copy of LERN rules, application agreement, and applicable FCC license forms. (See also 155.370 MHz – LERN)*

- ***On-Scene Command and Control Radio (OSCCR)*** *– 156.135 MHz, is managed by the state Emergency Management Division (EMD) through a mutual planning agreement with APCO and Washington State Department of Transportation (WSDOT). Authorization to use OSCCR must be requested through EMD. This is a mutual aid channel to be used by state and local public safety agencies at the scene of an incident using only mobiles and/or portables.*
- ***Comprehensive Emergency Management Network (CEMNET)*** *– CEMNET is a low-band VHF radio network that serves as back-up emergency communications between local EOCs and the state EOC. It also supports day-to-day requirements of the state Department of Ecology and other agencies as needed. The three primary channels that are monitored on a 24-hour basis at the state EOC are F1 – 45.20 MHZ, F2 – 45.36 MHz, and F3 – 45.48 MHz.*
- ***FIRECOM / REDNET*** *– 153.830 MHz, is managed by the Washington State Fire Chiefs Association. Authorization to use FIRECOM/REDNET must be requested through the association. This is a mutual aid channel, which can be used by fire districts and departments for command, control, and coordination at the scene of an incident.*
- ***Department of Natural Resources (DNR) Common*** *– 151.415 MHz is managed by Washington State Department of Natural Resources (DNR). Authorization to use DNR Common must be requested through the appropriate DNR region or division manager to the DNR Radio System manager. Washington State Parks & Recreation Commission, Department of Ecology (DOE), Washington State Department of Fish & Wildlife (WDFW), and US Forest Service are primary users of the channel. Local jurisdiction authorization is usually only granted for use on an emergency basis primarily for mutual support between local fire districts and DNR.*

- ***Search and Rescue (SAR)*** *– 155.160 MHz, is managed by the Washington State Emergency Management Division (EMD). Authorization to use SAR must be requested through EMD. This is a mutual aid channel to be used only when conducting search and rescue operations using only mobiles and portables.*
- ***NPSPAC 800 MHz Interoperability Channels*** *– In addition to the nationally adopted ICALL and ITAC channels in the NPSPAC band, Region 43 further identified a set of five channels that could be used for on-scene tactical purposes in a simplex mode or on temporary low-power repeaters for significant events. The Plan further identifies operational practices to be followed in using both the national channels and these regional channels. Full details should be read in the Region 43 NPSPAC plan, which can be found in the 800 MHz section of www.region43.org.*

  National Calling Channel (ICALL): 821/866.0125 MHz (Chan. 601)

  National Working Channel (ITAC-1): 821/866.5125 MHz (Chan. 639)

  National Working Channel (ITAC-2): 822/867.0125 MHz (Chan. 677)

  National Working Channel (ITAC-3): 822/867.5125 MHz (Chan. 715)

  National Working Channel (ITAC-4): 823/868.0125 MHz (Chan. 753)

  Note 1*: The ICALL channel shall be used to contact other users in the Region for the purpose of requesting incident related information and assistance. If necessary, the calling party will be asked to move to one of the ITAC channels for continuing incident operations or other interoperability communication needs. This channel can be implemented in full repeat mode.*

  Note 2*: The ITAC channels are to be used primarily for coordination activity between different agencies in a mutual aid situation, or emergency activities of a single agency. Incidents requiring multi-agency participation will be coordinated over these channels by the agency controlling the incident. These channels can be implemented in full repeat mode.*

  Region 43's Tactical Channels are identified with intended primary uses but all channels are available for all public safety functions if incident conditions warrant.

  STATEOPS-1 – Fire/EMS 822/867.5375 MHz (Chan. 716)

STATEOPS-4 – Fire/EMS 822/867.6125 MHz (Chan. 722)

STATEOPS-2 – Law Enforcement 822/867.5625 MHz (Chan. 718)

STATEOPS-5 – Law Enforcement 822/867.6375 MHz (Chan. 724)

STATEOPS-3 – General Government 822/867.5875 MHz (Chan. 720)

***Note 3**: The STATEOPS-1 through 5 are to be used only in the "simplex" mode using the repeater output frequency, for interoperability and other "repeater talk-around" needs. STATEOPS-3 will be implemented in simplex mode on the repeater output frequency (867.5875 MHz). Fixed base stations and fixed mobile relay stations are prohibited on these tactical channels. Temporary portable mobile relay stations with the minimum required power shall be permitted. STATEOPS channels are "primarily or recommend" to be used by the intended services but it isn't a hard requirement.*

- ***King County Mutual Aid Radio System (KC MARS)** – King County operates a network of simulcast VHF and UHF repeaters that are cross-patched to a talk group on their countywide 800 MHz trunked radio system. This allows conventional VHF and UHF radio users to have interoperable communications with all law enforcement (and many fire) agencies that use the trunked system.*

  The VHF channel pair is 154.650 MHz for repeater input and 155.190 MHz for repeater output. Continuous tone coded squelch system (CTCSS) tone 100.00 Hz is used.

  The UHF channel pair is 465.550 MHz for repeater input and 460.550 MHz for repeater output. CTCSS tone 103.5 Hz is used.

- ***MED-COM Network (MEDNET) -** The UHF MEDCOM channels are in use across Washington State to support hospital to hospital, EMS medical control and aeromedical communications, in addition to itinerant EMS operations. Systems implemented in the 700 MHz band should include these unique requirements into their system designs, and where possible provide cross patching to locally implemented MED channels to meet these interoperability needs within their region.*

- ***Hospital Emergency Administrative Radio (HEAR)** – 155.340 and 155.280 MHz are common channels used by hospitals for communication with ambulance services for medical control. This channel can be used while at the scene or enroute to the*

emergency medical facility. Licensing for use of this channel is requested through the Federal Communications Commission (FCC). Letter of authorization to use the HEAR frequencies is required from the Washington State Department of Health. POC Marina H. Zuetell, MHz Consulting Services, PO Box 15624 Seattle, WA. 98115, 206-524-6567 office, 206-526-1338 fax, zuetell@comcast.net

- ***Inter-System Patching*** *– In addition to the various Interoperability capabilities listed above, many of the large 800 MHz trunked radio systems in the state, most notably those in King County, Snohomish County, Clark County, Benton County, and the City of Tacoma, have numerous cross-band patching capabilities between their trunked systems and one or more of these lower-band Interoperability channels. This allows users across these bands to achieve Interoperable communications, as long as the common channels and coverage areas are adequately identified with the established incident management structure and patches are effectively executed by dispatch centers.*

Table 10 NSPAC Repeaters in Operation and Programmed Channels

Region	*Jurisdiction*	*Agency*	*Tx Frequency*	*Rx Frequency*
9	State of Washington	WADOC- Airway Heights Correction Center	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
			868.5000	823.5000
			867.7625	822.7625
		ITAC 3	867.5125	822.5125
8	State of Washington	WA-DOC Ahtanum View Correction Center	866.5625	821.5625
		ITAC 3	867.5125	822.5125
2	State of Washington	WADOC - Clallam Bay Correction Center	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
		ITAC 3	867.5125	822.5125
		Ellis Mtn	868.1375	823.1375
		Striped Peak	868.1375	823.1375
		Mount Octopus	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
3	State of Washington	WADOC - Cedar Creek Correction Center	866.5625	821.5625
			868.1375	823.1375
		ITAC 3	867.5125	822.5125
		Capitol Peak	867.0625	822.0625
8	State of Washington	WADOC - Coyote Ridge Correction Center	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
		ITAC 3	867.5125	822.5125
4	State of Washington	WADOC - Larch correction Center	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
		ITAC 3	867.5125	822.5125

Region	Jurisdiction	Agency	Tx Frequency	Rx Frequency
1	State of Washington	WADOC - Monroe Correction Complex	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
			868.5000	823.5000
		ITAC 3	867.5125	822.5125
3	State of Washington	WADOC - Mission Creek Correction Center for Women	PENDING	
5	State of Washington	WADOC - McNeil Island Corrections Center	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
		ITAC 3	867.5125	822.5125
		ITAC 4	868.0125	823.0125
2	State of Washington	WADOC - Olympic Correction Center	SEE WADOC - CBCC	
			Mount Octopus	
9	State of Washington	WADOC - Pine Lodge Correction Center for Women	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
3	State of Washington	WADOC - Stafford Creek Correction Center	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
			868.5000	823.5000
			867.7625	822.7625
		ITAC 3	867.5125	822.5125
		Neilton Peak	868.1375	823.1375
		South Mountain	868.1375	823.1375
3	State of Washington	WADOC - WA Corrections Center	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
		ITAC 3	867.5125	822.5125
5	State of Washington	WADOC - WA Corrections Center for Women	868.1375	823.1375

Region	Jurisdiction	Agency	Tx Frequency	Rx Frequency
			867.0625	822.0625
			866.5625	821.5625
		ITAC 3	867.5125	822.5125
8	State of Washington	WADOC - WA State Penitentiary	866.5625	821.5625
			867.0625	822.0625
			868.1375	823.1375
			868.5000	823.5000
			867.7625	822.7625
		ITAC 3	867.5125	822.5125

4.1 Governance Structure

State Interoperability Executive Committee

The State Interoperability Executive Committee (SIEC) is the formal interoperability governance structure created by the Washington State Legislature with membership from city, county, and state government, local law enforcement, fire, and emergency management jurisdictions in the state of Washington. The SIEC was established by legislation effective on July 1, 2003 as a permanent sub-committee of the state Information Services Board (ISB).

This governance structure in no way infringes upon the responsibility of each jurisdiction and local agency to provide for the governance of their respective public safety wireless networks.

The Legislature created the ISB in 1987 under RCW 43.105. The ISB is responsible for IT planning, acquisitions, policies, and standards.

It was the intent of the legislature that the state's considerable investment in radio communications facilities and the spectrum licensed to the state would be managed in such a way as to ensure economic efficiencies by coordinated planning, development, and management. It is the belief of the Legislature, as well as the SIEC membership, that such coordination is essential for disaster preparedness, emergency management, and public safety. Coordination also results in more cost-effective use of the state's resources and improves government services at all levels.[39]

Charter – Principles, Roles, Responsibilities and Processes

The SIEC charter is defined within the Revised Code of Washington (RCW) 43.105.330 and amended as required to meet the state's interoperability management goals and objectives.

[39] http://isb.wa.gov/committees/siec/background.aspx

SIEC Guiding Principles

- Build wisely, build once, and share often.
- Spectrum licensed by the state should be maintained as a natural resource and, to the greatest extent possible, be shared and maintained to provide the greatest return on investment.
- Communications solutions should be based upon non-proprietary "open" standards when possible.
- Topography and population density may dictate the appropriate use of radio frequencies and technology. For example, areas in Washington State that have mountains and tall buildings may require different technology than areas where there are extensive flat lands.
- All solutions for state funded radio systems should consider the sharing of assets between state and local governments when possible.
- All solutions using state funds should be planned with an enterprise view toward connectivity and interoperability with state communications assets.
- All equipment shall have a lifecycle strategy to assist in planning and management.

Roles

The SIEC's role in the state's interoperability improvement process is to focus, coordinate and direct the Statewide Interoperability Communications Plan (SCIP) development efforts and oversee state sponsored implementation projects. The SIEC ensures the continuation of local input to the planning process through its multi-disciplinary membership, its sub-committees, and through the stakeholder outreach program articulated in Section 3: Methodology of this plan.

Responsibilities: Goals and Objectives

As set forth in RCW 43.105.330, the SIEC is responsible for the following goals and objectives:

1. Develop policies and make recommendations to the ISB for technical standards for state wireless radio communications systems, including emergency communications systems. The standards must address, among other things, the interoperability of systems, taking into account both existing and future systems and technologies.

2. Coordinate and manage on behalf of the ISB the licensing and use of state-designated and state-licensed radio frequencies, including the spectrum used for public safety and emergency communications, and serve as the point of contact with the Federal Communications Commission on matters relating to allocation, use, and licensing of radio spectrum.

3. Coordinate the purchasing of all state wireless radio communications system equipment to ensure that:

   a. After the transition from a radio over internet protocol network, any new trunked system shall be, at a minimum, Project-25.
   b. Any new system that requires advanced digital features shall be, at a minimum, Project-25.
   c. Any new system or equipment purchases shall be, at a minimum, upgradeable to Project-25.

4. Seek support, including possible federal or other funding, for state-sponsored wireless communications systems.
5. Develop recommendations for legislation that may be required to promote interoperability of state wireless communications systems.
6. Foster cooperation and coordination among public safety and emergency response organizations.
7. Work with wireless communications groups and associations to ensure interoperability among all public safety and emergency response wireless communications systems.
8. Perform such other duties as may be assigned by the board to promote interoperability of wireless communications systems.

Identify the Members of the Governing Body

RCW 43.105.330 directed the ISB to appoint a committee composed of a membership which must include, but not be limited to, representatives of the:

- Military Department.
- Washington State Patrol.
- Department of Transportation.
- Department of Information Services.
- Department of Natural Resources.
- City and county governments.
- State and local fire chiefs, police chiefs, and sheriffs.
- State and local emergency management directors.

A point of contact roster for the current membership is attached for reference at Appendix D – Points of Contact.

Current members represent all of the relevant emergency response disciplines and regions in the state. The following organizations are represented in the SIEC:

Table 11 SIEC Organizations

Military Department	Regional Emergency Services Association
Washington State Patrol	Association of Washington Cities
Department of Transportation	Office of the State Fire Marshall
Department of Information Services	Washington Association of Fire Chiefs
Department of Natural Resources	Washington Association of Sheriffs and Police Chiefs
Department of Corrections	Washington State Association of Counties
State Emergency Management Division	

Meeting Schedule for the Governing Body

The SIEC convenes bi-monthly meetings beginning in February on the third Thursday of the month. SIEC meetings start at 1:30 pm and are scheduled to end by 3:30 pm. Meeting times are adjusted as required to accommodate agenda items presented for consideration, approval, or review. Meetings are held in the Department of Information Services Boardroom, located in the James R. Larson Forum Building, located at 605 11th Street SE, Olympia, WA. For more information contact the Washington State Department of Information Services at (253) 902-3470.

Multi-jurisdictional/Multi-disciplinary Agreements

In creating an overarching governance structure the Washington State Legislature created the SIEC with representatives from across the state and multiple disciplines. Because of legislative action there was no need for a formal memorandum of agreement (MOA) or memorandum of understanding (MOU) to create the SIEC. state, local, federal, tribal governments, and non-governmental organizations (NGO) have at times entered into agreements to foster interoperability and sharing of resources. Examples of these are outlined in the technology section of this plan.

Principles and Decision Making Processes

The SIEC follows the principles and decision making processes of Roberts Rules of Order[40] for conducting business in deliberative assemblies. Actions taken on behalf of the ISB and polices and standards intended for ISB promulgation are introduced by individual SIEC members. Items are introduced by members at the request of committee staff, state agency representatives, public entities, and/or members of the public. The SIEC may also establish work plans, direct staff and activities, in order to fulfill their legal responsibilities. Non-binding actions by the SIEC are initiated utilizing the same committee protocols. MOAs, MOUs, Inter Agency Agreements (IAA), and Service Level Agreements (SLA) are used throughout the interoperability process as is appropriate to given situations concerning decision making and sharing of resources. These agreements are prepared in accordance with state policy and applicable state laws.

[40] Roberts Rules of Order, 10th Edition

The chair and legislative members of the board serve as non-voting ex officio members of the Committee. Voting membership may not exceed fifteen members. The chair of the ISB appoints the chair of the Committee from among the voting members of the Committee.

The SIEC serves as a part of the state of Washington's multi-jurisdictional Domestic Security Infrastructure, "Team Washington." "*The vision and collective commitment of TEAM WASHINGTON is to reduce our vulnerabilities and defend against the disasters created by domestic attacks and natural or technological hazards."*[41] This infrastructure consists of:

- Domestic Security Executive Group (DSEG) - the state government executive level policy and advisory group to advise the Governor on all matters pertaining to state domestic security.
- Emergency Management Council (EMC) - Revised Code of Washington (RCW) 38.52.040 established this council to advise the Governor and the Director of Washington Military Department on all matters pertaining to state and local emergency management.
- Committee on Homeland Security (CHS) - a sub-committee of the EMC, the CHS develops and recommends statewide homeland security strategies to the EMC.
- Enhanced 9-1-1 (E-911) Advisory Committee – Chapter 38.52 RCW, Revised, established the State E911 Program to coordinate and facilitate the local planning, installation and operation of the E911 phone systems.
- Regional Homeland Security Coordination Districts (RHSCD) - The Washington State Homeland Security regional planning and coordination structure is divided into nine regions. The regions are made up of one or more counties that include cities, towns, and tribal nations within the regional geographical boundaries. This regional configuration was implemented to distribute federal grant funds, develop emergency responder equipment priority lists, plan and execute training and exercise programs, create regionally based mutual aid plans, and develop volunteer infrastructure to support citizens' involvement in homeland security initiatives. This regional structure has increased communication and collaboration, to include the sharing of best practices and resource coordination. Operations and physical resources are maintained at the local jurisdiction (county, city, and tribal) level and coordination and planning are facilitated at the regional level.

SIEC Staff Advisory Work (SAW) Group

The SIEC chartered the SIEC Staff Advisory Work (SAW) Group as a permanent sub-committee to assist with the following areas:

- Identify legislative barriers that hinder statewide interoperability.

[41] Washington Statewide Homeland Security Strategic Plan 2006 – 2011, pg2, http://www.emd.wa.gov/plans/documents/WAHLSStrategic2006-2011.pdf

- Monitor the FCC and other rule-making agencies for rules and legislation that may impact interoperability.
- Research and develop policy recommendations for the SIEC.

The SAW Group meets regularly on the first Tuesday of the month. The meetings start at 1:30 p.m. and may last until 5:00 p.m. Times are adjusted to accommodate agenda items as required. The meetings are held in the DIS Boardroom in the James L. Larson Forum Building, located at 605 11th Street SE, Olympia, WA.

When necessary a second meeting is held on the third Tuesday of the month.

Temporary Sub-committees or Work Groups

The SIEC establishes temporary sub-committees or work groups when required to assist with:

- Identification of technologies that could be used by the state of Washington to promote interoperable communications.
- Development of a frequency use plan that will promote spectrum efficiencies.
- Assist the SIEC and the SAW Group with interoperability technical requirements within the state of Washington.
- Identification of sustainable funding sources.
- Creation of business plans to enable interoperable communications.
- Assistance to state and local jurisdiction in finding funding solutions for their interoperability projects.

Lead Agency

The SIEC designated a lead agency to plan, implement, and centralize operations of statewide interoperability projects and radio networks. The Washington State Patrol (WSP) was selected based on their experience with management of technical projects of this type and scope.

The SIEC is responsible for setting policy and working with the Lead Agency to:

- Develop the organizational structures and system objectives.
- Identify initial and recurring funding sources.
- Approve system access policies and priorities.
- Resolve disputes regarding system policies.
- Develop cost recovery approaches for operations and maintenance.

The SIEC is responsible for ensuring that the Lead Agency utilizes processes for soliciting and considering agency-specific needs that impact funding, system capabilities, service levels, and system operations.

The Lead Agency's ultimate goal is clear direction and strategy. Responsibilities include:

- Management of the procurement, construction, implementation, and operation of the shared infrastructure components of interoperability projects.
- Centralized management of the technology and personnel resources that support common interoperability functions.
- Develop the detailed implementation plans for the next phases of the overall multiple subsystems architecture approach.
- Implement a centralized frequency management plan and capabilities for all state agencies, and where possible, include local and tribal agencies.
- Develop the operational and governance processes and policies that will be necessary to support the future method of operating.

The Lead Agency works in concert with all committees and working groups of the SIEC to address the details of system implementation and operations related to funding, financing, and system management. A close working relationship between the Lead Agency and the SIEC working groups ensures that public safety communications interests are adequately represented.

The SAW Group works in conjunction with the Lead Agency and designated system manager to refine the system design and to develop and implement operational policies and procedures. This includes developing maintenance and operational standards, configuration management policies and naming conventions.

The SIEC coordinates with other regional planning organizations including the) Region 43 Regional Planning Committee (RPC).

Washington Integrated Justice Information Board (WIJIB)

The Washington Legislature passed RCW 10.98.160 establishing the Washington Integrated Justice Information Board (WIJIB) in recognition of the importance of information sharing among justice agencies. It is comprised of state and local representatives from across the justice community. The statute specifically stated the membership, roles, responsibilities, and objectives of the Board. One of which is the submission of a strategic plan and budget request every biennium to describe the planned course of action and necessary resources to achieve the integration of justice information. Sharing this information is a complicated process when data is stored in many formats and among multiple agencies. Collecting information from numerous sources can be time consuming and lead to inaccuracy, incompleteness, and other significant errors that affect public safety.

Region 43 Regional Planning Committee

In December of 1983, the United States Congress directed the Federal Communications Commission (FCC) to establish a plan to ensure that the

communication needs of state and local public safety authorities would be met. This mandate created regional committees responsible for frequency management to ensure their availability to public safety agencies.

The SIEC, through the SAW Group, participates in the Region 43 Committee process. This Committee serves as a vehicle for local and regional jurisdictions to participate in the process by which frequencies are allocated by the FCC. It is vital to the interest of Washington State public safety agencies that the Regional Planning Committee be maintained as an active and on-going Committee.

The state of Washington is a single planning region (Region 43) for both the 700 MHz, 800 MHz and 4.9 GHz public safety bands. Region 43 frequency plans for state of Washington use of 700 MHz, 800 MHz and 4.9 GHz are posted at http://www.region43.org/index.asp.

The National Coordinating Committee (NCC) 700 MHz Regional Planning Committee (RPC)

The NCC 700 MHz RPC is responsible for administration and management of the 12.6 MHz of general use spectrum in the 700 MHz band and for planning and coordinating the use of the 4.9 GHz public safety band in the state of Washington.

The interoperability section of the NCC RPC 43 700 MHz Plan (Section 6) was developed and approved by the SIEC. The SIEC takes an active role in working with the Region 43 to monitor system deployments under this plan to ensure interoperability objectives are met.

The NPSPAC 800 MHz Regional Review Committee is responsible for:

- The review of new applications.
- Conducting an annual system implementation review.
- Making action recommendations to the FCC.
- Resolving inter-regional problems.
- Reviewing and recommending modifications and amendments to the pla.
- Exercising general oversight of the plan.

Region 43 meeting schedules are published at http://www.region43.org/index.asp.

The role that the governance structure will play in ensuring that PSIC grants are used in support of the statewide plan to enhance statewide interoperability is a direct approach. The State Administrative Agent (SAA) selected the State Interoperability Executive Committee (SIEC) to serve as the coordination point for the review, prioritization and selection of project proposals for the PSIC grant requests.

The SIEC, serving as the oversight committee for the PSIC grant, will use scoring criteria that measures how consistent the proposed projects support plans to enhance statewide interoperability.

Through the SIEC oversight of the Investment Justification development process, the state of Washington is confident that the funds provided from the PSIC grant will make measurable progress toward improving the Washington's interoperability needs.

Regional Interoperability Committees

Across the state Regional Interoperability Committees are beginning to form. In the Seattle UASI area, the Puget Sound Regional - Interoperability Executive Committee (PSR-IEC) was chartered and formally recognized by the Seattle Urban Area Security Initiative Core Group to act as the interoperability planning committee for the three county areas consisting of King, Snohomish, and Pierce Counties. This Committee is comprised of members from multiple disciplines and agencies located throughout the Tri-County area. It functions as a highly collaborative and focused regional group.

A good example of a regional governance structure that enhances interoperability in the state of Washington is the King County Regional Communication Board (KCRCB). The City of Seattle, Eastside Public Safety Communications Agency, Valley Communications Center, an at large member representing Police and Fire non-owners, and King County are the five agencies that comprise the membership of the KCRCB. All members are also owners with the exception of the at-large member. These members represent the cities, first responder agencies, utility districts, transportation systems, sewer and water districts, and school district's communication needs throughout the county in terms of their voice radio requirements related to the Emergency Radio System. Although bounded physically by the border of King County, the KCRCB is a true regional system governed by a board of members from the representing the constituents within the County. The Emergency Radio System covers a 21,000 square mile portion of Western Washington in the states most populous County

4.2 Technology

Statewide Capabilities Assessment

The State Interoperability Executive Committee (SIEC) conducted a detailed technical assessment and inventory of the public safety communications equipment used throughout the state of Washington by local, tribal, and state agencies.

The results of this technical assessment and inventory are published in the *Inventory of Public Safety Communications Systems – Phase 2 Repor*t, (the Phase 2 Report), February 2005. This report is excerpted in Appendix E of this CIP. The full report is posted on the SIEC web site at http://isb.wa.gov/committees/siec/publications.aspx.

The inventory followed the same general approach as the previous SIEC studies, collecting information in the following major areas of public safety communications assets:

- Radio equipment.
- Infrastructure.
- Cellular and pager technology.
- Specialized interoperability equipment.
- State radio frequencies.
- Command and control protocols.

The Phase 2 Report supplements the *Inventory of Statewide Public Safety Communications Systems Phase I Report* published on July, 2004. It is also posted on the SIEC web site.

The Phase 2 Report is a critical source of information used in the development of the previous Technical Implementation Plan (TIP) and the Washington SCIP. The information in this report came from three data collection sources conducted between October and November of 2004:

- A Web-based survey.
- Stakeholder interviews.
- Statewide forum meetings.

Approximately 200 responders accessed the Web-based survey. The agencies completing the survey represent 83 percent of the state's population. This represents an inventory of radio equipment and is not a complete interoperability assessment.

Future CASM Use

The SIEC has adopted a strategy, as outlined in Section 5.4, which encourages the statewide use of CASM tool to establish a baseline for multi-jurisdictional/multi-agency interoperability. As part of the TICP effort, Clark County, Snohomish County, King County, and Pierce County populated the CASM tool. As a part of the OPSCAN consortium effort and planning for the 2010 Winter Olympic Games, seven additional counties will populate the CASM tool.

The CASM tool, provided by the DHS Interoperable Communications Technical Assistance Program (ICTAP) can be used to inventory the communications assets in the state. However, CASM data collection and display capabilities are limited to land mobile radio (LMR) voice interoperability. The CASM tool is a web-based tool that agencies can use to store the interoperable communications equipment inventory and current radio communications infrastructure information. This collected data will reside in a secure database that only authorized participating agencies will be able to access.[42] As part of the strategic planning

[42] http://www.ojp.usdoj.gov/odp/docs/CASM_trifold8Final.pdf

process regional efforts are occurring to document technology gaps in infrastructure, communications operability, and interoperability.

Regional Forums

A series of interviews was conducted with members of the SIEC, members of the SIEC Staff Advisory Work (SAW) Group, and additional individuals representing a diverse group of users from state and local agencies and tribal nations.

Nine forums were conducted, one in each of the state's Homeland Security Regions. The forums were attended by more than 200 first responders representing an excellent cross-sample of the first responder agencies from across the state.

The interview and forum findings were reported in greater detail in an earlier report, *High-Level Final Statewide Public Safety Communications Interoperability Plan*, also posted on the SIEC web site.

Section 2.2 Technical – Radio equipment and Section 2.3 Technical – infrastructure of the *Inventory of Public Safety Communications Systems – Phase 2 Repor*t details what types of technology and quantities of radios that are in use today throughout the state. This information is reprinted in it's entirety in Appendix E – *Inventory of Public Safety Communications Systems – Phase 2 Repor*t*:* Radio Inventory Survey.

The state of Washington has multiple, unique statewide radio systems but no state-owned and operated statewide radio system that supports federal, tribal, state, local, and non-governmental organizations. However, much shared infrastructure exists between various state agencies and the local jurisdictions, such a as microwave backbone and mutual aid channels.

Shared Technologies

The following shared technologies, frequencies, and systems are in use by the jurisdictions and agencies across the state of Washington.

Emergency Management Radio Systems

Washington Emergency Management Division[43] Systems:

Comprehensive Emergency Management Network (CEMNET)

The Emergency Management Division (EMD) operates a statewide, very high frequency (VHF) low-band radio system, as the primary backup communication link between the state EOC and local EOCs throughout the state. It also serves as a link to other agencies such as:

- Department of Ecology.

[43] http://emd.wa.gov/telcom/telcom_radio_systems.shtml

- Department of Health.
- University of Washington Seismology Lab .
- National Weather Service.
- Harborview Medical Center.

The following map depicts the location of the twelve mountaintop base stations that comprise the backbone of the network. The CEMNET base stations are controlled from the state EOC through the Washington State Patrol microwave system.

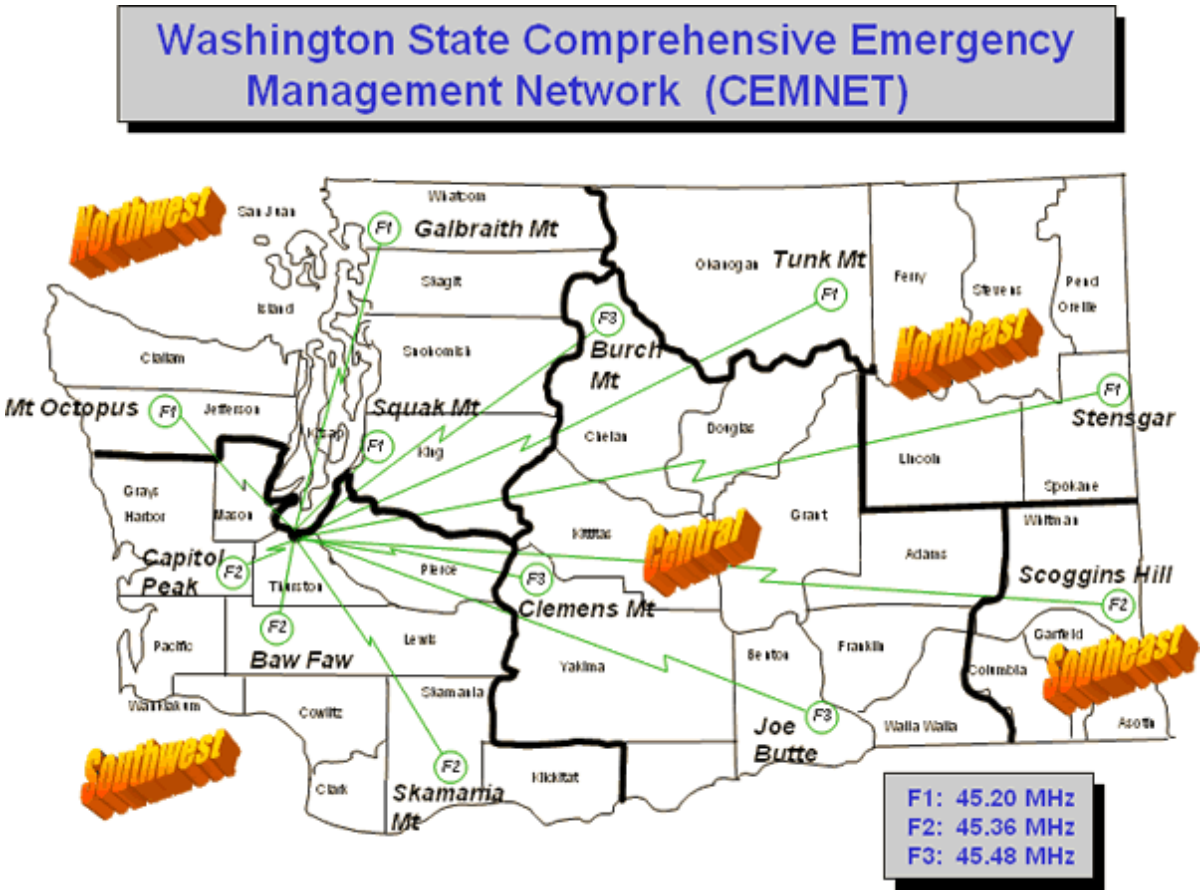

Figure 11 CEMNET

CEMNET operates primarily on three (3) frequencies, designated for accountability purposes as F1- 45.200 MHz, F2 - 45.360 MHz, and F3- 45.480 MHz. In radios set up primarily for CEMNET use, this will usually correspond to channels 1, 2, and 3.

The State Emergency Operations Officer (SEOO) located within the state EOC monitors the network on a 24-hour basis. For operational purposes, the state has been divided into five regions (see table 4-3), with a channel designated for use within that region. The State Emergency Operations Officer (SEOO) will monitor the designated channel (frequency) for both routine and emergency

traffic and respond accordingly. Should traffic build-up cause a problem within the network, the State EOC will act as Net Control.

CEMNET is tested weekly with local emergency management jurisdictions on the following schedule:

- Western Washington stations: Tuesday, 0900 hours.
- Central Washington stations: Wednesday, 0900 hours.
- Eastern Washington stations: Thursday, 0900 hours.

Local emergency management jurisdictions are authorized to use the designated CEMNET region channel for local operations.

Table 12 CEMNET Regional Channel Designation

Northwest	***Southwest***	***Central***	***Northeast***	***Southeast***
F1 (45.20 MHz)	**F2 (45.36 MHz)**	**F3 (45.48 MHz)**	**F1 (45.20 MHz)**	**F2 (45.36 MHz)**
Clallam	Clark	Adams	Ferry	Asotin
Island	Cowlitz	Benton	Lincoln	Columbia
Jefferson	Grays Harbor	Chelan	Okanogan	Garfield
King	Lewis	Douglas	Pend Oreille	Whitman
Kitsap	Mason	Grant	Spokane	
San Juan	Pacific	Franklin	Stevens	
Skagit	Pierce	Kittitas		
Snohomish	Skamania	Klickitat		
Whatcom	Thurston	Yakima		
Bellevue	Wahkiakum	Walla Walla		
Kent	Tacoma			
SW Snohomish	Lacey			
Seattle	Shelton			
Auburn	Puyallup			
Kirkland				
Snoqualmie				
Port Angeles				
Redmond				

Local jurisdictions should use the region channel assignment as identified in the preceding table for local "base station" to mobile/portable communications in support of local day-to-day and emergency needs. Each local jurisdiction is authorized at least five (5) mobiles per license.

Additionally, MAST helicopters from Fort Lewis and/or Army National Guard may communicate on Channel F1 on their FM systems

Other Radio Systems Used by EMD

- FEMA MERS - Mobile Emergency Response System.
- FNARS - Federal National Radio System.

- STARCNET - State Area Command Net .
- OSCCR - On-Scene Command and Control Radio Network Phase I.
- SAR - Search and Rescue Net.
- REDNET/FIRECOM - Fire Communications Net (Mutual Aid Channel).
- NLEEC - National Law Enforcement Emergency Communications.
- HEAR - Hospital Emergency Alerting Radio.
- MED-COM Network (MEDNET) - Medical Net.

Mobile Emergency Response System (MERS)

The Federal Emergency Management Agency's (FEMA) Operations Net, a VHF high-band system primarily used by FEMA MERS for communicating with FEMA personnel. For EMD purposes, this net is used as a secondary capability for communicating with FEMA Region X and MERS Operations located in Bothell, Washington.

FEMA National Radio System (FNARS)

FNARS is a high frequency (HF) system primarily used by FEMA for inter and intra-state communications between FEMA Headquarters, FEMA regions and the states during national and/or regional emergencies, particularly when land line systems are impaired or restricted. An FNARS HF transmitter/receiver, a 1000 Watt Collins radio, was installed by FEMA in the State EOC.

State Area Command (STARC) Net

STARC is an HF system primarily used by the Washington National Guard for intra-state emergency communications between Headquarters, STARC in Camp Murray, and each Army/Air National Guard armory/station. It is also used by the Guard for interstate communications with other National Guard units. For EMD purposes, this net is to be used as a secondary capability for communicating with local jurisdictions and deployed National Guard units.

The Emergency Management Division (EMD)

The EMD also has access for emergency purposes, to VHF systems operated by the Washington State Patrol (WSP) and Washington Department of Natural Resources (DNR).

Other Frequencies Utilized

The following frequencies are identified for the use as stated. Approval and authorization by the agency identified is needed prior to being used.

Table 13 Statewide Frequencies Available for Use

Use	Frequency	Approval/Authorization
On-Scene Command and Control (OSCCR)	156.135 MHz	Washington State Emergency Management Division (EMD)
Search and Rescue (SAR)	155.160 MHz	Washington State Emergency Management Division (EMD)

State Fire Control Channel - REDNET/FIRECOM	153.830 MHz	Washington State Association of Fire Chiefs (WSAFC)
National Law Enforcement Emergency Channel (NLEEC)	155.475 MHz	Washington State Patrol (WSP)
Hospital Emergency Administrative Radio (HEAR)	155.340 MHz or 155.280 MHz	Federal Communications Commission (FCC)
Medical Communications (Med-COM) Network (MEDNET)	462.950 through 468.175 MHz.	Washington State Department of Health

OSCCR Network

The OSCCR Network is primarily used by public-safety agencies, on-scene at an event/incident, for command and control of activities between agencies. OSCCR is employed in the simplex mode via mobile and/or handheld equipment. OSCCR was reconfigured in 2007 for use as a limited coverage statewide network connected via IP gateways. Phase 2 of this project will increase statewide access to the network. The original project, known as OSCCR Phase 1, provided a Radio over IP (RoIP) Network capability for interoperability between three state agencies and 13 mountaintop transmitter sites on a VHF frequency of 156.135 MHz. The OSCCR VHF interoperability channel is programmed into over 14,000 public safety responder radios of federal, military, state, local and tribal governments.

For further information and/or obtain authorization for its use contact the EMD Telecommunications Section at (253) 512-7034 or e-mail Don Miller, d.miller@emd.wa.gov.

SAR

SAR is primarily used by Search and Rescue organizations for coordinating operations between SAR units. It can only be employed in the simplex mode via mobile and/or handheld equipment. For further information and/or obtain authorization for its use contact the EMD Telecommunications Section at (253) 512-7034 or e-mail Don Miller, d.miller@emd.wa.gov.

REDNET/FIRECOM

REDNET/FIRECOM is primarily used by fire departments and districts for coordinating operations between firefighting units. For further information and/or obtain authorization for its use contact the Washington State Association of Fire Chiefs (WSAFC).

NLEC

NLEC is primarily used by law enforcement agencies for mutual operations. Also used by EMD for activation of the Emergency Alert System (EAS) relay network. For information and/or obtain authorization for its use contact the Washington State Patrol (WSP).

HEAR

HEAR is primarily used by ambulance services for administrative communications with hospitals.

MED-COM Network (Formerly known as MEDNET)

The Washington State Department of Health (DOH) owns a statewide repeater system that operates on the medical emergency delivery network (MED-COM) channels, Med-1 through Med-10. There are currently 12 repeaters, with an additional two repeaters planned. These repeaters reside in Washington State Patrol (WSP) communications shacks and towers, and are linked by WSP microwave. The system functions as a giant "party-line" in that it allows hospitals in Eastern and Western Washington to communicate with each other on a UHF repeater.

However, DOH is not a user of the repeater system, and has no subscriber equipment with which to do so. The actual users of this system are some individual hospital facilities, some Emergency Medical Services (EMS) agencies, and aeromedical evacuation services such as Airlift NW, Med-Star, and Lifeflight. Aeromedical services rely on this system daily for communication from remote areas of the state. The hospitals who have access to the system, with new subscriber equipment, use it only infrequently for hospital to hospital, or hospital to EMS, during a mass casualty incident or other disaster, or during exercises.

The system was first installed in the early 1990, but was never completed, and so was never fully implemented. There are only a few pockets of hospital and EMS users throughout the state. There is a great deal of potential for the system if it was to be built out. DOH does not have any allocated/budgeted funding to support or expand the system.

Emergency Management Radio Systems Operations SECURE - HF

The Operations SECURE (State Emergency Communications Using Radio Effectively) high frequency (HF) net (also known as **CEMNET II**) is a secondary emergency back-up communications capability for intra- and inter-state use.

Operating on eight discrete frequencies, point-to-point long-range communications between the state EOC and fixed or mobile HF stations can be - established as needed. Currently, in addition to the state EOC, fixed HF stations are located in each Washington State Patrol (WSP) district communications center.

The HF frequencies assigned are:

- 2.326 MHz (Upper Sideband (USB))
- 2.411 MHz (USB)
- 2.414 MHz (USB)
- 2.587 MHz (USB)
- 2.801 MHz (USB)
- 5.192 MHz (USB)
- 7.801 MHz (USB)
- 7.935 MHz (USB)

Emergency Management Radio Systems State Agency Emergency Net (STAEN) - 800 MHz

The State Agency Emergency Net is a radio net employing an ultra high frequency (UHF) 800 MHz repeater that has been incorporated into the Washington State Department of Transportation's (WSDOT) 800 MHz trunked radio system on Capitol Peak. The net was primarily designed to provide a capability for state agencies within the Capitol Campus, Tumwater, Lacey, and surrounding areas to communicate with the State Emergency Operations Center (EOC) during emergency situations or disasters which severely impact or restrict the use of "normal" telephone services. It can also be used to communicate among agencies during an emergency situation, as needed.

State agencies have been encouraged to procure equipment and participate in the net. Currently, eight agencies have done so. They are:

1. Department of Social and Health Services (DSHS).
2. Department of Agriculture .
3. Department of Community, Trade, and Economic Development (CTED) - Energy Division.
4. Department of Health (DOH).
5. Department of Information Services (DIS).
6. Department of Labor and Industries (L&I).
7. Department of Retirement Systems (DRS).
8. Office of the Governor.
9. Office of the State Auditor.
10. Utilities and Transportation Commission.
11. Employment Security Department.

A talk group, primarily consisting of the state agencies, has been defined for the net. The State Emergency Operations Officer (SEOO) monitors the net on a 24-hour basis. Communications checks of the net are scheduled on the first and third Mondays of each month to ensure operational readiness.

WebEOC

Washington State Emergency Management Division (EMD) built an integrated emergency operations center crisis information management system that enables local jurisdictions, state and federal agencies and others to stay abreast of current activities from their own EOCs and offices. EMD’s requirement is serviced by WebEOCv.6 developed by Emergency Services Integrators, Inc.'s (ESi). WebEOC is a web-based, emergency operations center crisis information management software tool suite that provides local jurisdictions with an affordable, Web-based, and low maintenance solution that can aid them with ICS/NIMS/ESF compliance. WebEOCv.6 has a full collection of FEMA and ICS forms and also allows ESF forms to be downloaded and used.

WebEOC is in use by many jurisdictions across the state of Washington.

Table 14 Washington Emergency Management Division LMR profile

DHLS Region	1	2	3	4	5	6	7	8	9
Total # or Radio users (300)	33	33	33	33	33	33	33	33	33
Average # of radio users	-	-	-	-	-	-	-	-	-
Operational base and Repeater Channels (12)	1	1	2	1	0	1	2	2	2
Total # of dispatch centers (1)	0	0	1	0	0	0	0	0	0
Total # of dispatch consoles (4)	0	0	4	0	0	0	0	0	0
Primary intersystem transport	M	M	M	M	M	M	M	M	M
# of agency data centers	-	-	-	-	-	-	-	-	-

Notes: M=Microwave, F=Fiber, (-) = indicates information is not available

Washington State Department of Fish and Wildlife

The Washington State Department of Fish and Wildlife (WDFW), a general authority law enforcement agency under RCW 77.15.075, is located in the Natural Resources building in Olympia, WA. The General Headquarters (GHQ) is the central dispatch point for law enforcement communications activity. The agency uses a commercially provided mobile data terminal (MDT) system for some dispatching of law enforcement operations. The WDFW Statewide MDT System is unique among state agencies and hosts Washington State Parks & Recreation Commission units and in the near future certain federal resource management agencies. This MDT system allows internet and intranet access in the field, along with email and global positioning system (GPS) synchronized mapping software. WDFW also uses the DNR State Channel Repeater System for over the air dispatching. WDFW is experimenting with radio over internet protocol (RoIP) and is partnering with DNR to expand the State Channel Repeater System. It intends to expand statewide dispatch capability using RoIP technology and will implement the access to the OSCCR Base Station system at its dispatch center soon. WDFW also uses a limited amount of satellite telephony.

The WDFW operates primarily in VHF high band, including all mutual aid VHF channels. The agency does not own its systems (except for some TAC channels), but essentially operates WDFW radios using other state agency systems. WDFW operates on the DNR system for tactical traffic which is the primary system for non commissioned staff. The agency also operates on the Washington State Patrol network currently as the primary system for the law

enforcement officers, but is seeking to transition to its own dispatch system. The profile of WDFW's system and distribution of resources and system assets is displayed in the table below.

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Table 15 Washington Department of Fish and Wildlife LMR system profile

Washington Department of Fish and Wildlife

DHLS Region	1	2	3	4	5	6	7	8	9
Total # or Radio users (258)	32	12	54	28	10	13	26	46	37
Average # of radio users	32	12	54	28	10	13	26	46	37
Operational base and Repeater Channels (32) (desk top)	1	3	4	7	0	0	5	5	7
Total # of dispatch centers (1)	0	0	1	0	0	0	0	0	0
Total # of dispatch consoles (1)	0	0	1	0	0	0	0	0	0
Primary intersystem transport			Other						
# of agency data centers (commercial)	0	0	1	0	0	0	0	0	0

Notes: M=Microwave, F=Fiber, (-) = indicates information is not available Other for WDFW refers to commercial system for mobile data.)

Washington State Department of Fish and Wildlife's Operating Procedures:

As a general authority law enforcement agency, WDFW has a highest degree of interoperability of any state agency. It interoperates with many local and federal agencies. In fact, WDFW is also unique among state agencies with a fully P25 VHF radio fleet for law enforcement in which P25 (digital modulation) channels have been used tactically for seven years. The agency has agreements with all the county sheriff's offices using the VHF band, and operates directly with or through patches on all county systems statewide, except those systems that are 800 MHz trunked, with one exception (Benton County). WDFW is expanding its access for its officers to counties with UHF systems. In addition, through frequency sharing agreements, the WDFW operates on all federal agency systems including the U.S. Forest Service, National Wildlife Refuges, National Parks Service agencies and some tribal governments.

Washington State Department of Natural Resources:

The Washington State Department of Natural Resources (DNR) is headquartered in Olympia and manages more than 5 million acres of the state's assets including forest, range, agricultural, and aquatic lands.

Integral to performing its main roles of resource protection and land management, DNR works with private landowners and commercial loggers so their activities don't damage public resources, fish and wildlife, water quality, and other natural resources. DNR is also the state's largest on-call fire department with 1,200 temporary and permanent employees who fight fires on about 12 million acres of private and state-owned forest lands.

Three radio systems comprise DNR's statewide land mobile radio (LMR) system that is operated throughout the state to support its mission to manage and protect the state's land assets. DNR operates state and regional repeater systems as well as an emergency portable repeater system, all on VHF frequencies 151 to 172 MHz. All portable and mobile radios are capable of both wide band and narrow band operation.

The technical architecture and equipment configuration for DNR's LMR system is summarized below.

- Statewide operations organized in six regions.
- Primary component manufacturer is Motorola and Relm.
- Total dispatch centers is 6; with a total of 24 consoles.
- Mountain top repeater sites 109.
- Total mobile and portable subscriber units 2200; 1000 mobiles, 1200 portable radios.

Washington State Department of Natural Resource's Operating Procedures:

DNR shares its system with the Washington State Department of Fish and Wildlife. The agency promotes interoperability through:

- Shared mountain-top communication sites.
- Central Washington Interagency Communications Center (CWICC).
- State Channel Radio Users Group (SCRUG).
- Shares the DNR COMMON channel with rural fire departments, federal, and private cooperators.

DNR's plan for responding to large scale incident interoperability includes:

- Deploying interagency incident management teams.
- Follows National Incident Management System (NIMS) practices.
- Maintains radio caches, frequencies, and command posts.
- Uses radio equipment from the Boise national cache.

The profile of DNR's system and distribution of resources and system assets is displayed in the table below.

Table 16 Washington State Department Natural Resources LMR system profile

WASHINGTON STATE DEPARTMENT OF
Natural Resources

DHLS Region	1	2	3	4	5	6	7	8	9
Total # or Radio users (2094)	298	268	584	8	318	**	626	***	***
Average # of radio users	159	133	311	0	193	0	325	0	0
Operational base and Repeater Channels (109)	11	11	33	0	11	0	43	0	0
Total # of dispatch centers (6)	1	1	1	0	1	0	2	0	0
Total # of dispatch consoles (26)	4	3	5	0	3	0	9	0	0
Primary intersystem transport									
# of agency data centers (2)	0	0	0	0	0	0	0	0	0

Notes: M=Microwave, F=Fiber, (-) = indicates information is not available, N= NA *
Homeland Security Regions 3 and 4 are roughly analogous to DNR's Pacific Cascade Region.
** Homeland Security Regions 5 and 6 are roughly analogous to DNR's South Puget Sound Region.
*** Homeland Security Regions 7, 8, and 9 are equivalent to DNR's Northeast and Southeast Regions. Northeast Region is the Northern 2/5 of the area.

Washington State Department of Corrections

The Washington State Department of Corrections (DOC) is organized into several divisions providing operational and administrative oversight and services. Of these divisions, the Prisons Division and the Community Corrections Division utilize and maintain radio communications equipment.

The Prisons Division oversees 15 institutions organized into three Departments (East, West, and Central) each having a designated administrator reporting to the Deputy Secretary – Prisons Division.

The Community Corrections Division oversees 15 work release facilities and 118 community corrections field offices. Operating regions are designated as Work Release and Community Corrections Regions 1 through 7, each having an appointed administrator responsible for locations within their defined boundaries, and reporting to the Deputy Secretary – Community Corrections Division.

DOC's land mobile radio systems:

The Department does not maintain an infrastructure for data and voice transmission shared by other agencies. Each DOC facility is a stand-alone system, with provisions for extended communications to support specific departmental programs and activities. The Department's LMR systems are described according to the type of facility below.

Institutions (15)

- All radio sites are intended to support agency operations at its institutions, and support no other public safety agencies. Base stations are typically 100 watt transmitters, and depending on the facility, they operate up to 5 channel conventional or trunked 800 MHz systems.
- Typical effective coverage area is slightly less than 10 miles and is dependent upon topography and natural growth.
- Institutions have limited VHF and UHF capabilities.
- On-site ITAC 3 repeaters are used at institutions.

Work release facilities (15)

- There are no on-site radio systems; operators at work release facilities use DOC radios or cellular phones for on-site communications.
- Radios operate in simplex mode only.
- Cellular phones are available for use by staff.

Community Corrections field offices (118)

- There are no DOC radio systems installed at field offices.
- Field officers typically use local law enforcement communications systems with approval of the licensee; and the operators may be issued radio equipment from their local resources or acquired by DOC.
- Field officers assigned to special units/task force may be provided equipment to support assignment by the partner agency.

The profile of DOC's system and distribution of resources and system assets is displayed in the table below.

Table 17 Washington State Department Natural Resources LMR system profile

DHLS Region	1	2	3	4	5	6	7	8	9
Total # or Radio users (3231)	476	305	809	96	538	-	-	598	409
Average # of radio users	124	85	345	35	298	0	0	450	195
Operational base and Repeater Channels (99)	0	0	0	0	0	0	0	0	0
Total # of dispatch centers (14)	1	2	4	1	2	0	0	2	2
Total # of dispatch consoles (26)	7	5	6	1	2	0	0	3	2
Primary intersystem transport	N	N	N	N	N	-	-	-	N
# of agency data centers (2)	0	0	0	0	0	0	0	0	0

Notes: M=Microwave, F=Fiber, (-) = indicates information is not available, N= NA

Washington State Department of Correction's Operating Procedures:

The DOC has limited radio communications with other agencies such as the Washington State Patrol and Department of Natural Resources. Communications with these other agencies are generally limited to specific

functions, i.e. prisoner transports, work crews, and joint operations. At the institutions, DOC maintains organizational and operational procedures to respond to incidents within or in areas surrounding facilities. DOC operators typically do not respond to incidents or situations in the community where local city and county entities have primary jurisdiction. The Department's Special Teams may be requested by the local agencies for support if available and approved, but the primary interest is the well-being and security of the facility.

For work release and field offices: these operations are dependent on community resources for police, fire and medical needs. Field and Work Release staff is not a first responder to incidents or situations in the community. DOC staff may be requested to augment existing local resources, if available and approved.

Washington State Patrol

The Washington State Patrol (WSP) makes a difference everyday by providing public safety services to everyone where they live, work, travel, and play. In addition to the field operations the Patrol has criminal investigation, technical management, fire protection, security, and administrative duties spread throughout its six agency bureaus.

Most notably, WSP is responsible for traffic law enforcement, collision investigation, and motorist assistance on over 17,500 miles of state and interstate highways.

Washington State Patrol's Land Mobile Radio Systems:

To serve its wireless communications needs, WSP has a statewide analog conventional VHF radio system with more than 100 transceiver sites located throughout the state connected by a 6-gigahertz (GHz) analog and digital microwave. The agency's LMR and microwave systems serve as the backbone system for other federal, state, and local agencies.

One of the state's primary interoperability channels, the Law Enforcement Radio Network (LERN), is licensed for statewide use by WSP, and is available to use by other local agencies with approval.

WSP is currently a major partner in two major technology enhancement projects, and is seeking additional funding to complete deployment of the statewide Optical Carrier 3 (OC3) digital microwave by 2011. The agencies current initiatives are:

- Integrated Wireless Network (IWN) Project is a federally funded initiative that will enhance WSP's OC3 digital microwave system in support of Department of Justice communication requirements.
- Olympic Public Safety Communications Alliance Network (OPSCAN) – is led by Clallam County and consists of over 40 local, state, federal, and Canadian public safety agencies. The OPSCAN project has deployed an OC3 microwave ring around the Olympic peninsula. The OC3 microwave ring is integrated with other fiber, microwave, and leased lines from

multiple organizations. The WSP serves in co-lead roles on the OPSCAN technical and governance committees.

- The Washington State Patrol (WSP) serves a co-lead for the 2010 Security Committee's communication interoperability workgroup. As co-lead of the communication interoperability workgroup, the WSP is facilitating the completion of the workgroup tasks. The intent of the State is to develop and provide interoperable tools to the organizations participating in the Olympic security event.
- The Washington State Patrol was selected as Lead Agency related to implementing the projects related to the SIEC's interoperability efforts. The WSP's roles are focused on project management related to technical projects and public outreach on behalf of the SIEC. This effort is distinct and separate from the WSP's day-to-day operations related to internal communication issues.

In addition to an extensive voice communications system, WSP operates a UHF network for mobile computer network (MCN) laptops that provide basic email and records access capabilities. However, this data system runs on an outdated legacy operating system at very low transmission rates. This mobile data system is high on the priority list to be updated with new MCN equipment that can be fully integrated into the computer aided dispatch system that was upgraded in 2003.

The technical architecture and equipment configuration for the LMR system is summarized below.

- Statewide operations organized in eight districts.
- Primary component manufacturers are Kenwood, Motorola and M/ACOM.
- Total dispatch centers is eight; with a total of 39 consoles.
- Operational base station and repeater sites 215.
- Subscriber units total 3830; 2440 mobiles, 1300 portables.

WSP's Operating Procedures

The Communications Division operates a 24-hour-a-day, 365-day-a-year statewide emergency communications system, which includes eight centers. The Division provides emergency dispatch services for mobile units of the Washington State Patrol (WSP), Washington State Department of Fish and Wildlife, Department of Natural Resources, Liquor Control Board, Department of Transportation, State Parks, U.S. Forest Service and other state and federal agencies. Electronic Services Division technicians are kept in a standby response status on a regional basis 24x7x365. The WSP also has operational public safety partners statewide including:

- Law enforcement agencies - federal, state and local.
- Fire agencies - state and local.
- Transportation agencies - state.
- Emergency medical services - local.

The profile of WSP's system and distribution of resources and system assets is displayed in the table below.

Table 18 Washington State Patrol LMR system profile

DHLS Region	1	2	3	4	5	6	7	8	9
Total # or Radio users (666)	110	40	42	76	91	124	58	53	72
Average # of radio users	37	15	15	26	35	42	20	20	25
Operational base and Repeater Channels (99)	11	10	15	9	10	12	12	8	12
Total # of dispatch centers (8)	1	0	1	1	1	1	1	1	1
Total # of dispatch consoles (39)	5	5	2	4	3	5	5	5	5
Primary intersystem transport	M	M	M	M	M	M	M	M	M
# of agency data centers (2)	-	-	1	-	-	-	-	1	-

Notes: M=Microwave, F=Fiber, (-) = indicates information is not available

Washington State Department of Transportation

The Washington State Department of Transportation (WSDOT) is responsible for operations and maintenance and incident response for over 7,000 miles of roadway, 3300 bridges and mountain passes located throughout the state, as well as overseeing Washington State Ferries - the nation's largest ferry system. For the past fifteen year, the Department has relied on an E.F. Johnson MultiNet wide area 800 MHz trunked land mobile radio system for wireless voice communications to serve the diverse needs of it end users. Although the system is capable of providing low speed mobile data in addition to voice (i.e., 1.2 Kilobits per second) WSDOT has not deployed any data applications due to the limited data transmission rate, interference issues, and the higher priority given to voice communications. The technical architecture and equipment configuration for the 800 MHz system is summarized below.

- Statewide operations organized in six regions.
- Primary component manufacturer is E.F. Johnson.
- 4500 mobile and portable subscriber units.
- 5 traffic operations centers provide 95% state highway coverage.
- WSDOT shares ownership of an extensive microwave backbone that uses both analog and digital transmission paths to provide transport services throughout the six operating regions.

VHF System

In addition to the primary 800 MHz LMR, WSDOT also operates VHF high band (150 MHz) radio systems for supporting land-based operations and maintenance, and the state ferry marine-based system.

The VHF land-based system provides local area wireless communications for special roaming work groups and consists of approximately 20 mountain top stations and 500 mobile and portable units.

Washington State Ferry operates a three main marine channels in both simplex and repeater mode for voice communications within vessels, between vessels, and ship-to-shore.

The profile of WSDOT's system and distribution of resources and system assets are displayed in the table below.

Table 19 Washington Department of Transportation LMR system profile

Washington State Department of Transportation

DHLS Region	1	2	3	4	5	6	7	8	9
Total # or Radio users (3149)	466	208	355	233	170	490	496	198	533
Average # of radio users	-	-	-	-	-	-	-	-	-
Operational base and Repeater Channels (218)	15	19	19	19	15	20	33	40	38
Total # of dispatch centers (9)	1	1	1	1	1	1	1	1	1
Total # of dispatch consoles (18)	2	2	2	2	2	2	2	2	2
Primary intersystem transport	M	M	M	M	M	M	M	M	M
# of agency data centers	-	-	-	-	-	-	-	-	-

Notes: M=Microwave, F=Fiber, (-) = indicates information is not available

Seattle UASI Technology Overview

The Seattle Urban Area (UA) currently uses four Motorola 800 MHz SmartZone™ 4.1 systems for communications in King County, Snohomish County, Pierce County, and the Port of Seattle. Communications among these radio systems are established using the Tri-County Regional Interoperability System (TRIS) fixed gateway console patching network. The Seattle UA also uses two other systems. One is a statewide very high frequency conventional system used in conjunction with the Washington State Patrol. The other is an 800 MHz EF Johnson trunked system that connects them to the Washington Department of Transportation. Future plans include installation of infrastructure to support a repeated simulcast 800 MHz ICALL/ITAC system. The present capabilities will serve the Seattle UA for many years to come. Currently, the primary UA concern is 800 MHz re-banding and how that will take place.

Portland/Vancouver UASI Technology Overview

The Portland UA has a number of shared radio systems operating primarily in the 800 MHz and VHF bands. Communication between systems in different bands is established using gateways in conjunction with the national mutual aid frequencies. The Portland UA counties are either in planning or implementation of 800 MHz re-banding. In conjunction with the required reprogramming associated with the re-banding process, the Portland UA will simultaneously establish common naming conventions for talk groups on the regional shared systems. Some of the shared systems provide overlapping coverage. Thus, a single regional Project 25 shared system is a potential next step for the UA

Incident Management Systems

The survey conducted during the *Inventory of Public Safety Communications Systems – Phase 2 Report* preparation asked what type of incident communications planning template was used for multi-agency responses. The response from each agency was counted and totaled by county for each type listed.

Table 20 Command Protocols Used By State Agencies

	Homeland Security Region								
Command Protocol	1	2	3	4	5	6	7	8	9
Ad-hoc for each incident	4	3	4	3	1	1	4	2	11
Form 205 for each incident	1			1			1	1	
Isuite software	1								
NIMS/ICS template	14	5	14	5	3	5	10	8	2
Self-developed template	1	1	3			3	1	1	1
STD ICS template			1						
Tribal council of fire chiefs								1	

Table 21 Command Protocols used by Homeland Security Region

	State Agency								
Command Protocol	DOC	DFW	DOH	DNR	EMD	DOT	WSP		
Ad-hoc for each incident	1								
Form 205 for each incident				1					
NIMS/ICS template		1		1	1		1		
Self-developed template	1				1				

Continuing Support for Legacy Systems and Interfaces to Disparate Systems

Plans for continuing support to legacy systems are detailed in the SIEC's Technical Implementation Plan (TIP) and are continued by the design and implementation activities of the SIEC's Lead Agency.

The multiple subsystems architecture approach started with the Technical Implementation Plan (TIP) that was completed in 2005. The SIEC consulted with local and federal agencies, tribal nations, and vendors to obtain their feedback. They also developed a current inventory of public safety communications assets across the state. Lastly, after conducting a requirements analysis of several architectures, they chose an approach that is standards-based and uses shared infrastructure to develop a statewide interoperable public safety communications system.

The TIP provides a high-level approach for planning the transition of the current agency-based public safety mobile radio systems to a standards-based, frequency-independent, multiple subsystems technology architecture. The Washington SCIP furthers this effort by developing actionable strategies to bridge existing systems with gateways and cross band patches while deploying the first phase of a P25 statewide interoperable public safety communications system.

The multiple subsystems architecture consists of the following key elements[44]:

- A Radio over Internet Protocol (RoIP)-based interoperability system that enables ***non-state agencies*** to interconnect their radio systems with the state system. RoIP also provides immediate improvements in the ability of existing state agency systems to interoperate. For the purposes of the SIEC's Technical Implementation Plan (TIP), RoIP refers to the use of IP networks as the backbone to carry the **base band audio** voice traffic (VoIP) between radio base stations and console equipment. Today, IP networks can carry both voice and data for public safety purposes. Please refer to the definition of VoIP in Appendix B – Glossary.
- A statewide digital transport backbone system that provides connectivity to all transmitter locations. It also provides the interface to other state and federal networks for access to various applications and data that are available.
- A mutual-aid communications system deployed across the state to enable interoperability at and across the commonly-used public safety frequency bands (VHF Low, VHF High, UHF and 700/800 MHz). This allows those agencies that have not yet implemented standards-based communications capabilities to communicate directly with state agencies and dispatch centers.

[44] Technical Implementation Plan (TIP), November 2005, pg iii. http://isb.wa.gov/committees/siec/publications.aspx

- A statewide, Project 25 (P25) standards-based, frequency-independent system of systems that uses equipment common to all agency-focused systems providing full interoperability. It provides connectivity and interoperability to all state agency participants, **and federal, local, and tribal agencies that choose to participate in the system**.
- A statewide mobile data system that provides ***data*** communications capabilities for participating agencies' subscribers.

This strategy leverages the states past investments in radio technology by developing interfaces that enhance interoperability and coverage while simultaneously establishing the technology standards necessary for migration to newer technologies.

The SIEC's June 2005 *Alternatives Report*[45] includes a full description and comparison of the characteristics and costs of the alternatives considered by the state of Washington. The selected alternative, the multiple subsystems approach, utilizes a network of radio sites, transport mechanisms, interfaces, and audio switches connected together through one or more centralized control centers.

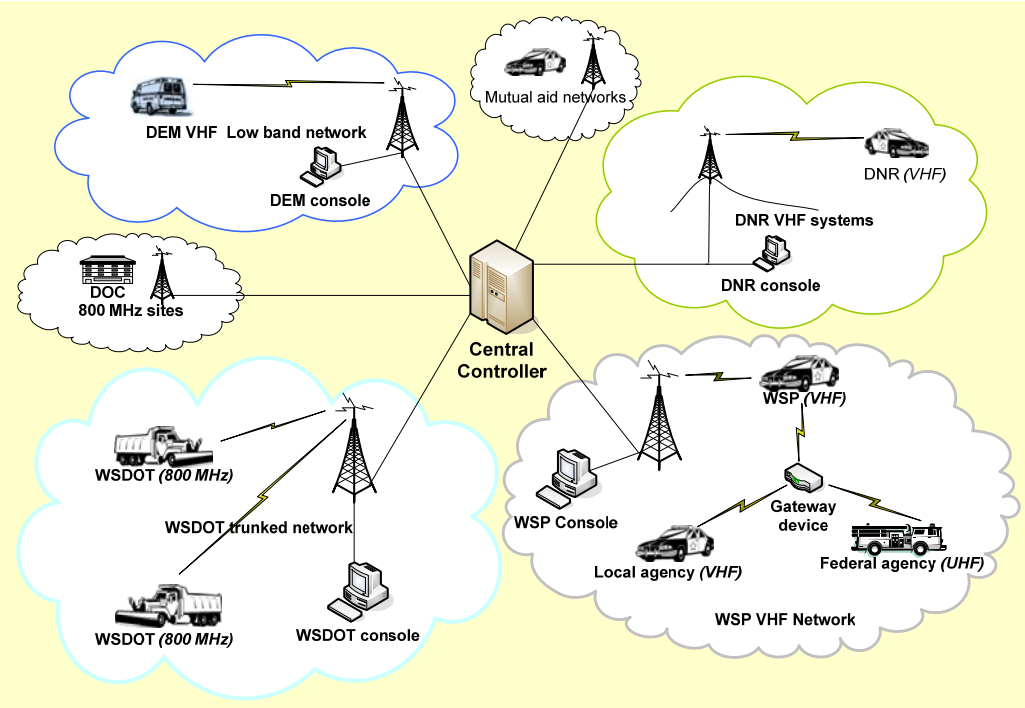

Figure 12 The Multiple Subsystems Approach

The central controller provides direct interoperability between users on each subsystem. **Rather than forcing a single-frequency band solution**, this approach leverages the state's existing radio systems operating in different

[45] [45] http://www.isb.wa.gov/committees/siec/publications/AlternativesReport052005FINAL.pdf

bands, and provides a phased migration to common air protocols based on Project 25 (P25) standards.

The proposed system will provide significant improvements in how state agencies communicate to meet the responsibilities of their day-to-day mission. The system will also provide state agencies with a solution for improving their interoperability with federal, local and tribal entities.

Migration Plan

The migration plan for moving from existing technologies to newly procured technologies focuses on the following activities as part of the detailed design and implementation process:

- Reconfirm the capabilities and gaps related to interoperability between state agencies and local/tribal/federal agencies.
- Prioritize those gaps through the SAW Group with representation from state, local, tribal, and federal agencies.
- Identify technology solutions that can provide the most benefit in the shortest amount of time. The most likely technologies to provide this kind of a solution are gateway-based, and include a range of hardware and/or software-based capabilities.
- Choose a pilot area, then procure and implement the proposed solution.
- Assess the results of the pilot, modify as required and deploy statewide as funding becomes available.

This approach will maximize the ability to improve interoperability with the local, tribal, non-governmental, and federal agencies. It is anticipated that this first phase could be completed within 18 months of a decision to move ahead.

Implementing a system such as described in this plan is an arduous task even under the best conditions. Undoubtedly there will be many technical, operational, and funding challenges to overcome along the way. These will be further complicated by various resource and process issues that will surface when the state agencies transition from their existing independent modes of operation to the more centralized system-management approach.

As the new technology-based systems are implemented and the need for maintenance of the agency-based legacy systems is diminished, the existing personnel involved in maintaining these systems could be transferred or assigned on a contract basis to the Lead Agency's support groups.

Process for New Purchase Compliance with this Plan

This strategy prepares for the future by ensuring that all future state agency radio purchases are Project 25 compliant. The SIEC is responsible for coordinating the purchasing of all state agency wireless radio communications system equipment to ensure that the equipment complies with the Revised Code of

Washington (RCW), section 43.105.330, requirement to be P25 capable or upgradeable.

This law ensures that all new state agency radios are compliant with the Washington SCIP as well as provides certainty to local jurisdictions that the P25 standard is in use statewide. The SIEC encourages all public safety LMR users to adopt the P25 standard.

> *It is the intent of this act to provide certainty to local governments that a statewide project-25 interoperable communications system will be in place throughout Washington in the near future, and the investments they are making are advantageous to the original intent of interoperable communications, thus ensuring the safety and welfare of Washington's citizens." [2006 c 76 § 1.] .*

The Washington Military Department acting in its capacity as the State Administrative Agency (SAA) appointed the SIEC as the Project Approval Authority for all PSIC grant investment justifications submitted by non-state agencies. This approval process will ensure all PSIC Grant funded radio purchases comply with the P25 standard and the architecture specified in the Washington SCIP.

The Washington Military Department has final authority to ensure that purchases comply with this SCIP.

State and federal grant process shall assist in ensuring compliance with the state plan. Operational needs shall assist in ensuring technical compliance within regions.

Strategy for how public safety agencies will plan and coordinate, acquire, deploy, and train on interoperable communications equipment, software and systems that:

1. Utilize reallocated public safety spectrum in the 700 MHz frequency band.
2. Enable interoperability with communication systems that can utilize reallocated public safety spectrum for radio communications; or
3. Otherwise improve or advance the interoperability of public safety communications system that utilize other public safety spectrum bands.

The normal process of life-cycle replacement or upgrade is a strategy that public safety agencies may follow to acquire, deploy, and train on communications systems that use or enable interoperability with the public safety spectrum in the 700 MHz frequency band. Most agencies have a keen interest in deploying systems to facilitate statewide interoperability on 700 MHz through the ICALL frequency. Many agencies desire data systems in the band.

But as with all new technology deployments funding is the key constraint. Funding ongoing maintenance and support of legacy systems required for day to day operations is a burden that must be endured, while agencies raise interest in and funding for new technology. The availability of grants is a key source for one time new technology purchases but does not address maintenance and replacement costs for the new systems or equipment as they age.

Training on new systems is an on-going program design in accordance with the technical specifications of the new technology. New Equipment Training (NET) is procured along with the systems and time of purchase. On-going training is required during operations and exercises in order to refresh skill of experienced operators and to develop skills through on the job training for new operators and maintenance personnel.

Please refer to Section 5 Strategy for more details concerning initiatives that otherwise improve or advance the interoperability of public safety communications system that utilize other public safety spectrum bands.

Table 22 POCs for Maintenance/Service of Systems

System	***Agency***	***Name/Title***	***Phone***
	Washington Department of Natural Resources	Marc Johnson Radio Operations	(360) 596-5180
	Electronic Services Division Washington State Patrol	Robert Schwent Division Administrator	(360) 705-5375
	Radio Communications Coordinator Enforcement Program Washington Department of Fish and Wildlife	John McIntosh Fish and Wildlife Lieutenant W-21	(360) 902-2346
	IT/Mobile Technology Washington State Department of Corrections	Jose Zuniga	(360) 725-8215
	Clark County Regional Emergency Services Agency (CRESA)	Keith Flewelling Technical Services Manager	(360) 992-9219
	Military Department Washington Military Department Camp Murray	Stan Ditterline CIO	(253) 512-7575
	Clallam County Sheriff's Office	Patti Morris OPSCAN Grant Administrator	(360) 417-2260
	Spokane Interoperability Executive Board	Bob Lincoln	(509) 8354521
	King County Radio Communications	David Mendel Radio Communications Manager	(206) 205-8191
	Emergency Management Division Washington Military Department	Don Miller Telecommunications and Warning Systems Manager	(253) 512-7035
	Washington State Department of Transportation ITS Communications & Wireless Technology	Terry Miller Manager	(360) 705- 7013

	Maintenance and Operations Programs		

Distribution of radios by frequency band

The state of Washington utilizes numerous frequency bands as outlined below chart:

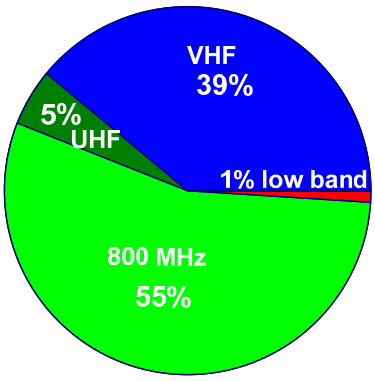

Figure 13 Distributions of Radios by Frequency Band

Introduction of Advanced Technology

The introduction of advanced technology would make emergency response operations more efficient and effective. The vast differences in the sophistication, coverage, and capabilities of the public safety communications systems deployed throughout the state complicate community support and endanger the lives of emergency responders during incident response.

There is a great disparity in technology, coverage, and interoperability throughout the northwest. Patches, gateways, and work around solutions exist and are in use on regional basis, but these ad-hoc fixes can be complex to install and configure when resources from outside the region are brought in and time is a factor during a crisis.

The ability for out of state or out of region responders to arrive at a disaster site and immediately interoperate with local jurisdictions is a key aspect of life saving mutual aid. Advanced technologies and planning are the key saving lives.

4.3 Standard Operating Procedures

Assessment of Current Local, Regional, and State Operating Procedures Which Support Interoperability.

The Department of Homeland Security regions are required to develop communication interoperability plans. State mutual aid channels have operating plans in place. The UASIs have TIC plans in place. Communication system operators have Standard Operating Procedures (SOP) in place for using their systems. Each regional area is responsible for producing SOPs for their local use Section 4.3 SOP.

The process by which the state, regions, and localities will develop, manage, maintain, upgrade, and communicate standard operating procedures (SOPs), as appropriate.

The process by which the state, regions, and localities will develop, manage, maintain, upgrade, and communicate standard operating procedures are to follow guidance from NIMS, National Interagency Fire Center, National Crime Information Center, the National Response Plan, Association of Public Safety Communications Officials (APCO), and the National Fire Protection Association and other nationally recognized bodies as they become available.

Identify the agencies included in the development of the SOPs, and the agencies expected to comply with the SOPs

Individual networks, at the state and local levels, maintain their own SOPs to meet their operational needs. Network users must comply with those SOPs. These SOPS are required to be NIMS compliant.

The SOPs are NIMS-compliant in terms of the Incident Command System (ICS) and preparedness.

The State of Washington adopted ICS in the early 1990's and NIMS is a follow on of the ICS process and with minor modifications is compliant with NIMS. The state of Washington has certified itself as NIMS compliant.

Please refer to **Section 2.1.1 NIMS/Multi-Agency Coordination Systems** and **Section 5.5 NIMS Compliance** for further detail.

4.4 Training and Exercises Plan

The state of Washington has a formal and robust statewide training and exercise program managed by the Washington Military Department's Emergency Management Division (EMD). The Washington's training program has four key **process** elements that ensure training is cross disciplinary and provides for the appropriate certifications as maybe required by the various programs:

1) State delivery of Federal Emergency Management Agency (FEMA) Professional Development/Advanced Professional Series (PDS/APS) courses and National Incident Management System (NIMS) courses.
2) Residential training of first responders at training facilities under the National Domestic Preparedness Consortium (NPDC). The NDPC membership includes FEMA's Office of Grants and Training (G&T) Center for Domestic Preparedness (CDP) in Anniston, Alabama, the New Mexico Institute of Mining and Technology (NMIMT), Louisiana State University (LSU), Texas A&M University (TEEX), and the Department of Energy's Nevada Test Site (NTS).
3) Coordination of in-state delivery of Department of Homeland Security (DHS) funded courses.

4) Development and delivery of tailored emergency management courses based on county and state needs assessment.

Each year the state EMD hosts a statewide exercise and training workshop for personnel involved in creating training and exercise programs for local, tribal, state, and federal governments. The workshop objectives include:

- Creating a statewide multi-year integrated exercise and training schedule by coordination and identification of statewide exercises and training opportunities during the workshop.
- Homeland Security Exercise and Evaluation Program (HSEEP) "hands on" Toolkit training entering identified statewide exercise and training activities into integrated calendar during workshop,
- Determining training requirements based on a performance needs analysis.

The Statewide Training and Exercise Calendar is located on-line at http://emd.mhsoftware.com/ViewCal.html. It can be viewed by resource, Gantt Chart for Resources, event type, by calendar or RSS 2.0 XML

The state of Washington adopted the HSEEP model for state exercises. All counties and local jurisdictions, including the Seattle Urban Area Security Initiative (UASI) region, are required to follow HSEEP standards in grant-funded exercises if they are Homeland Security grant recipients.

The state exercise requirements are also determined by the U.S. Army Chemical Stockpile Emergency Preparedness Program (CSEPP) exercise model and U.S. Department of Energy (DOE) Radiological Emergency Program Federal Energy Regulatory Commission (FERC) exercise model. DHS captured many elements of the CSEPP model in its development of HSEEP standards.

The Washington State Emergency Management Division, in conjunction with regional and local Departments of Emergency Management (DEM), drafted the Washington State HSEEP Five Year Exercise Plan, 2006-2010. This plan was reviewed and updated in 2006 to include a five-year integrated training and exercise calendar. The plan is scheduled for further revision in 2007.

The state of Washington uses a methodology that delivers approximately 24 training PDS/APS and FEMA Emergency Management Institute (EMI) courses annually. All of these courses are for the local and state emergency response community. Additionally, the state has conducted train-the-trainer courses for NIMS, HSEEP, Incident Command System (ICS), Senior Public Officials, Continuity of Operations (COOP), and Weapons of Mass Destruction (WMD) Awareness.

In the past 18 months, the state conducted four ICS train-the-trainer courses. These state-trained ICS instructors conducted 72 iterations of ICS 300 or 400, training approximately 1,800 local emergency responders at the time this plan was published.

The state participates in the design, development and play of five major full scale or functional exercises each year: CSEPP, Columbia Generating Station (CGS) (nuclear energy plant), U.S. Department of Energy (DOE), partnership with Department of Health and Human Services (DHHS) for bioterrorism, and a state/regional anti-terrorism exercise driven by DHS and Defense Support to Civil Authorities requirements.

Each major exercise is designed to include local and regional participants. EMD conducts 3-4 tabletop exercises annually to train for catastrophic natural disasters, flood-fights, wildfire, and Governor's Cabinet preparedness. In the past 24 months, state agencies have generated, conducted, or sponsored workshops, seminars, and tabletops for agro-terrorism, pan flu, Tactical Interoperable Communications Plan (TICP), maritime and port security, emergency air operations, critical infrastructure, logistics support, mutual aid, COOP, tsunamis, and earthquake preparedness.

Table 23 Training Courses Existing in the State (State Fiscal Year 2007)

Training	*Methodology*	*Occurrence*	*Agency*	*Audience*
Terrorism Awareness: Protecting Soft Targets	Classroom	Once	EMD/Tacoma	Local, State and Tribal emergency and first responders
G386 Mass Fatalities Incident Response	Classroom	Once	EMD	Local/State emergency responders
G230 Principles of Emergency Management	Classroom	Twice	EMD/Kelso	Local/State emergency responders
G300 ICS Intermediate	Classroom	Twice	EMD/Redmond	Local/State emergency responders
WA301 Hazardous Materials Awareness	Classroom	Once	EMD	Local/State emergency responders
G400 ICS Advanced	Classroom	Twice	EMD	Local/State emergency responders
G139 Exercise Design	Classroom	Thrice	EMD/Spokane/ Port Angeles/ Mt Vernon	Local/State emergency responders
G361 Flood Fight Operations	Classroom	Once	EMD/Vancouver	Local/State emergency responders
G290 Basic Public Information Officer (CSEPP)	Classroom	Twice	EMD/Tri-Cities/Redmond	Local/State emergency responders
IS700 NIMS	Classroom	Twice	EMD/Seattle	Local/State emergency responders
G244 Developing and Managing Volunteers	Classroom	Once	EMD/Bellevue	Local/State emergency responders
L449 ICS Train the Trainer	Classroom	Thrice	EMD/Spokane	Local/State emergency responders
G275 EOC Operations and Management	Classroom	Twice	EMD/Everett/Olympia	Local/State emergency responders
ATC 20/FEMA 154	Classroom	Thrice	EMD/Wenatchee/Thurston County/Vancouver	Local/State emergency responders
PIO Workshop	Classroom	Once	EMD/Stevens County	Local/State emergency responders
PSE Emergency Responder Training	Classroom	Twice	EMD/Tacoma	Local/State emergency responders
HSEEP Train the Trainer	Classroom	Once	EMD	Local/State emergency responders
G197 Emergency Planning for Special Needs Populations	Classroom	Once	EMD/Thurston	Local/State emergency responders
EOC Staff Training	Classroom	Four Times	EMD	State emergency responders
CSEPP Training	Classroom	Once	EMD	State emergency responders
G288 Donations Management	Classroom	Once	EMD/Kitsap	Local/State emergency responders
DOE Training	Classroom	Once	EMD	State emergency responders

Training and exercises information is disseminated to the necessary audience through a variety of methods. EMD provides information on its website[i] and flyers delivered by e-mail to local training and exercise points of contact. Emergency response leads in the fire, law enforcement, public health, tribal group and other communities groups use website, e-mail, paper flyers, and association distribution lists to disseminate information. Information is further disseminated through numerous committees, professional associations, and working groups with membership from the emergency response communities.

EMD conducts State Agency Liaison (SAL) meetings bi-monthly to train SALs, provide course availability and inform agencies of exercise play. The Governor's Cabinet is informed through the Domestic Security Executive Council (DSEG). Each of the nine Washington homeland security regions has a training and exercise committee that disseminates training information to city, county, tribal, and regional trainers and coordinates exercises with local planners.

All the training and exercises integrate local, tribal, state, and federal agencies as is appropriate to the event. A primary charter for each Washington homeland security regional training and exercise committee is to integrate training and exercises for city, county, and tribal agencies. Additionally, local planners have local training committees and staff to ensure partnerships are leveraged for training and exercises.

The state of Washington conducts an annual statewide All Hazards training event each year. Regional Response 2007 tested the response capabilities of 110 local, state, interstate, federal, and private sector agencies at various venues across the sate. The objectives were

- Demonstrating local, state, federal, tribal, and multinational interagency information flow and coordination.
- Demonstrating ICS and MAC capability (including area and unified commands)
- Demonstrating integrated interoperability of land, air, and maritime organizations
- Building Emergency Support Function (ESF) 2 (communications) and ESF5 (Emergency Management) capabilities
- Testing all mutual aid system, including EMAC
- Deploying National Guard forces in support of civil authorities (JTF, CERFP, NGRF, and CST)

The CERFP is a Washington National Guard task force, CBRNE (Chemical, Biological, Radiological, Nuclear or High-Yield Explosive) Enhanced Response Force Package. CST is the 10th Civil Support Team.

Leading up to Regional Response 2007, the state conducted a communications exercise. The scope of the communications exercise venue was:

- Five county three state agencies.
- JOC ran control cell.

- Test six systems between state and local EOCs.

The state of Washington is a member of the Northwest Interagency Exercise Coordinating Group sponsored by FEMA Region X. The state meets each quarter with other Northwest states, FEMA, U.S. Coast Guard, Federal Bureau of Investigation (FBI), Department of Defense (DOD), U.S. Customs and Border Patrol (CBP), U.S. Army Corps of Engineers, and other federal agencies. Federal partners are invited and actively participate in state homeland security events and working groups such as the annual Washington Exercise and Training Workshop.

The health exercise and the homeland security exercises are conducted each year in partnership with a public health region and a homeland security region. These exercises are inclusive of tribal, county and city exercise objectives.

The state EMD delivers training courses at local venues by request. EMD ensures that training is occurs at venues located around the state to ensure more effective participation.

Cross Disciplinary Training Process

The exercise and training process as designed ensure that training is cross-disciplinary through a variety of channels, including the Emergency Management Council, Committee on Homeland Security, the State Interoperability Executive Committee (SIEC), the Governor's Domestic Security Executive Group (DSEG), and EMD State Agency Liaison meetings.

EMD conducts an annual Homeland Security Training and Exercise Workshop[ii], with a primary objective of integration across disciplines and jurisdictions. Quarterly, the EMD monitors progress of integration of exercises under the auspices of Governor's Government Management and Accountability Program (GMAP) and the EMD Strategic Plan (Balanced Scorecard).

EMD also conducts and delivers emergency preparedness training and exercises. First responder technical training for Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE), WMD, medical surge, etc., are delivered by the DHS consortium of Domestic Preparedness Centers. EMD coordinates the training for the local jurisdictions. The local jurisdictions host the requested courses and provide logistical support as needed.

Local law enforcement receives its basic and advanced training at one of two state police academies located in Seattle and Spokane, Washington. Firefighters receive basic training, aircraft response, and maritime ship fire training at the Washington Fire Academy located in North Bend, Washington. Hazardous material response training is conducted at the Volpentest HAMMER Training and Education Center (HAMMER) located at the U.S. Department of Energy Hanford Site in Richland, Washington.

The Plan For Statewide Communications Training, Including The Type(S) Of Communications Interoperability Training Still Needed For Each Discipline.

The current communications training programs are determined by various agencies that support the networks, exercises, and disaster responses utilized in the state. Training programs exist to support these needs.

Training and certification are required at the Communications Unit Leader (COML), communications technician's level, communications dispatcher and radio user level. For example, the Criminal Justice Training Commission (CJTC), in cooperation with Association of Public Safety Communications Officials International (APCO), trains and certifies telecommunicators at the dispatch level. Washington management incident teams certify communications leaders and technicians at the type two and type three levels. Law enforcement academies, agencies, and fire associations train users on proper use of radios. Specialized electronic training is provided by industry and funded by various agencies for their technicians and engineers to maintain systems. The vast majority of agencies provide in house communications training to their staff on the use and maintenance of their systems.

The state of Washington recognizes the importance of COML training and certification for all stakeholders. The SIEC plans to endorse and support nationally recognized COML standards developed and promulgated through FEMA and the National Integration Center Incident Management Systems Division[46].

Certification

EMD is required to maintain a process for tracking training certification for six years. Records management for this requirement is stipulated in the Revised Code of Washington (RCW). EMD has overarching responsibility for the State Training Program, overseen by the State Training Officer (STO). Certificates are issued to students who apply for training through the state under the authority of the STO, as endorsed by EMD, upon successful completion of training.

Incentives are not generally offered unless specifically funded through grants or other means. However, training is free to the first responder, local jurisdiction, tribe, volunteer, and state agency emergency planner or responder and that aspect is a great incentive.

The decision to include interoperable communications objectives in exercises is determined on a case by case basis in accordance with the exercise objectives and mission analysis. CGS, CSEPP, and U.S. DOE exercise objectives are determined by their respective program requirements. State terrorist and homeland security-driven exercises do include interoperable communications objectives. All state exercises are NIMS compliant and a fundamental tenet of

[46] http://www.fema.gov/emergency/nims/index.shtm

NIMS is interoperability. Those exercises where telecommunications circuits are required for command, control, or coordination do include interoperable communications objectives either by design or through operational necessity.

The state of Washington adheres to the process stipulated by the Homeland Security Exercise and Evaluation Program (HSEEP). HSEEP requires after action reviews by participants, after action reports and improvement plans vetted by jurisdiction. EMD monitors exercise after action reports submitted for homeland security requirements.

All state activations for actual disaster responses are followed by after action reviews that capture lessons learned for evaluations and incorporation in improvement plans.

The state has not established special training or certification requirements applicable to Public Safety Interoperable Communications (PSIC) grant funded equipment stipulated in this SCIP. Training or certification requirements are derived from the technological specifications of the newly acquired systems. Costs associated with training or certification requirements are authorized and encouraged to be included in the investment justifications.

4.5 Usage

The Plan For Ensuring Regular Usage Of The Relevant Equipment And The SOPs Needed To Improve Interoperability.

The Homeland Security Regions developed policies and procedures for accessing and deploying interoperable resources on an as need basis. On the scene command control is determined by the Incident Commander who may direct the use of common interoperability channels including, Hospital Emergency Administrative Radio (HEAR), Medical Network channels one through ten, Law Enforcement Radio Network (LERN), Fire Communications Net (Mutual Aid Channel) (REDNET), On-Scene Command and Control Radio (OSCCR) Network, among others.

There are SOPs established for all of these networks by the responsible entities. The ICS is utilized in the state and is a system that provides for management of communication channels.

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[i] http://emd.wa.gov/

[ii] http://www.emd.wa.gov/training/training_annual_exercise_and_training_workshop.shtml

5. Strategy

The following vision, mission, goals, objectives, and strategic initiatives were designed to satisfy the state of Washington's requirement for All Hazards Incident Planning. They are key components in improving emergency response interagency wireless communications statewide by establishing the processes for collaborative planning, partnerships, and information sharing.

All funding sources available will be considered for use to purchase the equipment and training that is necessary to improve interoperable communications within the state of Washington. PSIC funded equipment will be used to support the improvement of interoperability with agencies that have traditionally lacked representation in and support from the state interoperability governance process. Agencies such as tribal governments and nongovernmental organizations were given specific attention as part of the SIEC's outreach program during the development of this SCIP.

PSIC grant funded equipment purchased in compliance with this SCIP will support and improve interoperability in the state by directly supporting the goals and objectives stated in Section 5.3 of this SCIP.

5.1 Interoperability Vision

The purpose of this Statewide Communications Interoperability Plan (SCIP) is to establish a future vision for communications interoperability and align emergency response agencies with that vision and the goals, objectives, and initiatives for achieving that vision.

The SIEC strategic vision is used to guide strategic planning efforts and to articulate the intent for the future state of communications interoperability in the state of Washington.

SIEC Vision[47]: Public safety officials throughout Washington are able to communicate using interoperable technology in real time and on demand.

For purposes of the SIEC vision the following terms are defined as:

Real time: There should be no noticeable delay between the time information is sent and when it is received.

On demand: Immediately available when mission requires; must be available under any circumstances.

There are no special roles or solutions identified and/or targeted regarding PSIC grant funded equipment. PSIC funded equipment will support the goal and objectives of this SCIP and projects will comply with the PSIC grant guidance.

[47] http://isb.wa.gov/committees/siec/mission.aspx

The SIEC defines the communications and interoperability problems and solutions as follows:

Governance: The SIEC and the Homeland Security Infrastructure provides a high degree of coordination and training opportunities at the state level.

The problem: The lack of congruence between the state level of organization development and organizational maturity at the local and regional levels.

The solution: The state of Washington encourages the establishment of regional interoperability committees or effective processes for local jurisdictions to work with the SIEC for improvement and advancement of interoperability through use of technology.

Standard Operating Procedures (SOPs):

The problem: There is a wide disparity in developing and maintaining minimum communications standards in all SOPs. Although disadvantaged by a lack of widely available mobile technology. The state of Washington adopted the federally mandate National Incident Management System (NIMS) and established processes for compliance training at both state and local levels. Emergency Operations Centers across the state utilize information technologies to manage incidents, however many first responders and emergency responders located outside of the major metropolitan areas lack mobile data systems necessary to access the information systems at the incident scene.

The solution: NIMS standards are integrated in all SOPs and deploy adequate data systems.

Technology:

The problem: On a statewide basis there are various levels of maturity in technology, disparate frequency bands and system incompatibility. In addition, there is a lack of modern, integrated land mobile radio technology, and widely available mobile data systems prevent access to the important incident management information systems and common operational pictures.

The solution: Development and implementation of modern integrated voice and mobile data systems that provide coverage where needed, foster information sharing, and enhance incident management statewide across multiple disciplines.

Training and Exercises:

The problem: There is a lack of focus on communications objectives in statewide training and exercises. Most after action reports include significant operation based communications problems, rather than technology based problems.

The solution: Cross-disciplinary, integrated, cross-jurisdictional, and interoperable communications objectives should be incorporated into training and

exercise events at all levels of government that follows the Incident Command System (ICS).

Usage:

The problem: Interoperable systems are not widely used for day to day operations. In the case of an incident users are often unfamiliar with, or unsure of, the operating procedures.

The solution: Regular exercises and usage of interoperability systems and procedures.

5.2 Mission

The SIEC mission statement is used to articulate the intent for the emergency response community's mission to plan strategic initiatives for achieving effective communications and interoperability at the statewide level.

SIEC Mission Statement[48]:

In the interests of public safety, the State Interoperability Executive Committee (SIEC) pursues and promotes statewide interoperability policies and standards, which will ensure interoperable emergency communications.

For the purposes of the SIEC mission, interoperability is defined as: An essential communication link within public safety and public service communications systems that permits units from two or more different entities to interact with one another and to exchange information according to a prescribed method in order to achieve predictable results.

5.3 Goals and Objectives

In December 2004, the SIEC's *High-Level Final Statewide Public Safety Communications Interoperability Plan* outlined several goals for improving interoperability[49]: These goals were assessed, updated and added to through a locally driven process that included four facilitated working group conducted at the August 22, 2007 Statewide Communications Interoperability Plan (SCIP) Workshop. Attendees included local, non-governmental, state, tribal, SIEC members, local elected officials, and federal representatives.

The SCIP goals are:

> **Goal 1:** Establish statewide interoperability as a high priority for all stakeholders.
>
> **Goal 2:** Maximize the improvements in interoperability by institutionalizing collaborative approaches across the state based upon common priorities and consensus at the regional and state level.
>
> **Goal 3:** Create an architecture approach which establishes a framework for interfacing disparate wireless communications systems, and facilitates migration to new technologies that are in line with relevant open standards platforms.
>
> **Goal 4:** Migrate to a technology that provides stakeholders with the level of interoperability that is appropriate for their missions.

[48] http://isb.wa.gov/committees/siec/mission.aspx
[49] Technical Implementation Plan, November, 2005, pg 6.
http://isb.wa.gov/committees/siec/publications/TIP_v8.0_FINAL_11302005.pdf

Goal 5: Optimize the use of all funding sources to accomplish the goals of the SCIP.

Goal 6: Incorporate best current practices approaches to improving interoperability.

Goal 7: Create a statewide backbone communications capability that provides interconnectivity for stakeholders.

Goal 8: Institutionalize use of interoperability training objectives during local and state exercises.

Goal 9: Develop NIMS compliant communications training plans, SOPs and classes for statewide use that achieve Communications Unit Leader (COML) certification.

Goal 10: Organize a pool of technical professionals to assist regional groups with evaluation of public safety wireless communications projects.

Objectives

The overall objective of this plan is to create a mechanism that aligns stakeholders at all levels on a future vision for communications interoperability by establishing a long term roadmap for the stakeholders to use when planning and implementing solutions designed to improve public safety communications systems. As a secondary objective, the proposed multiple subsystems architecture approach, provides stakeholders with additional technology options for short and mid term interoperability improvement. This plan:

- Summarizes the planning work to date and provides the background that supports developing this plan.
- Furthers the execution of the objectives contained in the Technical Implementation Plan (TIP).
- Summarizes the multiple subsystems technical architecture and equipment components that comprise the design of the proposed new system.
- Supports the OPSCAN Consortium approach as a demonstrated example a multiple subsystems technical architecture.
- Sets the way ahead for future statewide deployment of advanced technology communications systems.
- Addresses identified governance needs by recommending an organizational structure to further interoperability improvement across all elements of the SAFECOM Interoperability Continuum. See Appendix G and the definition for Regional Interoperability Committees (RIC).
- Emphasizes the importance of training, exercises, and NIMS compliant SOP development at all levels of government.
- Restates the requirement for developing governance for, consolidation of and continued digitalization of existing analog microwave backbone

infrastructure and for adding additional backbone capacity to support statewide implementation of advanced technologies.

- Recognizes the importance of PSAPs to statewide communications interoperability and encourages closer cooperation and coordination between public safety wireless network operators and supporting PSAPs.
- Ensure the state's current Strategic Technology Reserve (STR) that pre-positions or secures interoperable communications for immediate deployment in an emergency or major disaster is well rehearsed and ready for use.

All five elements of the SAFECOM Interoperability Continuum were considered when analyzing interoperability requirements to establish goals and objectives necessary to realize the vision and achieve the mission. All critical components of interoperability were addressed in the formulation of the initiatives outlined below.

5.4 Strategic Initiatives

Interoperability Governance Enhancements

This strategic initiative addresses a need identified at the Statewide SCIP Workshop for governance improvements. Local input stated that a fulltime organizational structure is needed to further interoperability improvement across all elements of the SAFECOM Interoperability Continuum.

This initiative is for development of a plan for a statewide interoperability coordination office led by a full time Interoperability Coordinator. Please refer to Appendix G – Draft SAFECOM White Paper for a detailed description of duties and responsibilities.

Strategic Technology Reserve (STR)

The Washington State Patrol (WSP), the Washington Military Department's Emergency Management Division (EMD), and the Department of Natural Resources (DNR) all have deployable equipment and personnel available to the Governor for rapid mobilization during a catastrophic event or emergency. The Washington State Patrol has two tactical, deployable ACU1000 interoperable switches staged in Bellevue, Washington and 4 technicians throughout the state on 24 hour standby. The WSP has a mobile command post equipped with an ACU1000 and Land Mobile Radios that can be deployed on a 24 x 7 basis.

The Washington Military Department's EMD has a deployable communications trailer that can restore communications via satellite connectivity, low band VHF, high band VHF, UHF, and 800 MHz. This trailer also offers network connectivity capability to both the EMD and WSP networks, as well as internet access and wireless computer capabilities. This trailer is entirely self-contained with battery, wind power, and solar power capabilities. Support can be provided by EMD personnel, as well as technicians from WSP and DNR upon request.

Should emergency response communications requirements surpass the capabilities of the state level agencies listed above, assets under the Washington Military Department, Air National Guard, are available for deployment in support of an incident. These assets are considerable and include both equipment, and personnel. The Air National Guard has three Theater Deployable Communications (TDC) packages located on both the east and west side of the state. The TDC packages consist of a total of 300 VHF land mobile P25 portable radios, nine VHF repeaters, and 15 VHF base stations. There are an additional four TDC packages scheduled for deployment in 2008. In addition, the ANG also has four packages that support satellite communications, cellular telephone

connectivity (100 users each), data interoperability, as well as having VHF, UHF, and 800 MHz land mobile radio capability, and Raytheon ACU1000s to facilitate cross band patching for interoperability. These assets are entirely self-contained and also come with assigned personnel. After activation by the Governor, these assets can be airlifted or ground transported to the affected areas within 24 to 72 hours.

These robust and multi-echeloned STR capabilities positioned the state of Washington to request a wavier to the PSIC grant requirement for using a portion of the funding to research, develop, establish, or implement an appropriate STR that pre-positions or secures interoperable communications for immediate deployment in an emergency or major disaster.

Interstate and International Coordination

The state of Washington pursues several strategic initiatives for interstate and international coordination that have aspects that are ongoing and developing as required.

Northwest Area Contingency Plan (NWACP).

The state of Washington pursues interstate coordination through the Northwest Area Contingency Plan (NWACP). This plan serves as both the Area Contingency Plan and the Regional Contingency Plan for the northwest states of Washington, Oregon, and Idaho, two U.S. Coast Guard Captain of the Port Zones (Puget Sound and Portland), and the U.S. Environmental Protection Agency's (EPA's) Inland Zone. Federal, state, tribal, and local government representatives as well as representatives from commercial, non-profit, and private concerns continue to drive this planning effort from the ground up.

The state of Washington is a member of the Northwest Interagency Exercise Coordinating Group sponsored by FEMA Region X. The state meets each quarter with other Northwest states, FEMA, U.S. Coast Guard, Federal Bureau of investigation (FBI), Department of Defense (DOD), U.S. Customs and Border Patrol (CBP), U.S. Army Corps of Engineers, and other federal agencies. Federal partners are invited and actively participate in state homeland security events and working groups, such as the annual Washington Exercise and Training Workshop.

The SIEC jointly hosts annual interstate summits with the Oregon and Idaho SIECs. The goal of these summits is to discuss opportunities for interstate coordination and cooperation.

PSIC-funded equipment that has capabilities that approach the functional equivalent of a common standards based shared system or leverages IP based or point-to-point software based solutions will improve interstate coordination and response by permitting the connection of another states communications systems. Interstate coordination and collaboration are authorized and encouraged. Some examples of innovative solutions include (but are not limited

to) the use of voice or radio over internet protocol; broadband voice, data, or video applications; mobile public safety networks; multi-band/multi-mode software designed radios; network interconnect technologies; or satellite communication systems.

These technologies, PSIC funded included, play a large role in public safety wireless communications survivability and recovery through the use of advanced technology solutions that incorporate infrastructure that is self healing and multi-band/multimode.

The SIEC's Lead Agency for interoperability implementation serves as the Co-chair of the 2010 Olympics & Paralympics and 2009 World Police and Fire Games Security Committee Communications Interoperability Workgroup. This venue facilitates cooperation and coordination with Canada in preparation the mutual aid interoperability requirements for the games.

Pacific Northwest Emergency Management Arrangement[50], Public Law 105-381.

Pacific Northwest Emergency Management Arrangement (PNEMA) is a mutual aid agreement between four U.S. states and two Canadian provinces/territories. The PENA is and arrangement between the state governments of Alaska, Idaho, Oregon, and Washington and the government of the Providence of British Columbia, and the government of Yukon Territory. This arrangement is for coordinating civil emergency preparedness, response and recovery measures for natural and technological emergencies or disasters, and for declared or undeclared hostilities including enemy attack.

The Signatories recognize the benefits of coordinating their separate emergency preparedness, response and recovery measures with that of contiguous jurisdictions for those emergencies, disasters, or hostilities affecting or potentially affecting any one or more of the Signatories in the Pacific Northwest.

International Frequency Coordination

The state of Washington developed a strategic approach to international frequency coordination and interference mitigation that leverages monthly meetings of the Western Washington Cooperative Interference Committee (WWCIC), combined with a joint annual meeting between the WWCIC and the Western Canada Telecommunications Council (WCTC). These meetings bring private and public sector system administrators, operators, licensees, regional planning committees, and governing agency representatives together to identify, discuss, and propose solutions that facilitate the cooperative use of shared-border frequency assignments between the United Sates and Canada.

Coordination efforts conducted during these meetings have been instrumental in resolving issues facing licensing and frequency assignments in the reallocation of

[50] http://www.access.gpo.gov/nara/publaw/105publ.html

700 MHz spectrum, the re-banding of the 800 MHz public safety spectrum, and the abatement of interference issues related to the reassignment of UHF television channels along the U.S./Canadian border

Public Safety Interoperable Communications (PSIC) equipment will improve interstate coordination and response by deploying 700 MHz ICALL systems that neighboring states can interoperate on during incident response and mutual aid situations.

PSIC funded equipment such as internet protocol (IP) gateways allow old technology to interoperate with new 700 MHz equipment. This will also improve interstate and international coordination and response by facilitating connection to mutual aid agencies from out of state that operate on different equipment.

Strategic Plan for Data Interoperability

There are initiatives underway at the local and regional levels that pursue data interoperability. Future statewide plans for deploying centralized interoperable data communications systems include use of advanced technologies. Consideration of plans to deploy data systems in the newly allocated 700 MHz Public Safety spectrum are on-going pending identification of funding sources.

The state of Washington has identified a strategic approach for addressing data interoperability through the promulgation of Project 25 (P25) standard land mobile radio (LMR) equipment. P25 Phase II equipment will facilitate an open systems standard for trunked radio interoperability. Phase III activities are addressing the operation and functionality of a new aeronautical and terrestrial wireless digital wideband/broadband public safety radio standard that could be used to transmit and receive voice, video, and high-speed data in a ubiquitous, wide-area, multiple-agency network[51].

The SIEC exercises oversight of state agency P25 compliance through the auspices of Revised Code of Washington (RCW), section 43.105.330, and encourages P25 adoption through outreach and partnerships with local jurisdictions.

Preparation for the 2009 Police and Fire Games and 2010 Olympics communications interoperability requirements, outline below, will further the creation of tactical data systems.

A specific initiative involving law enforcement data interoperability is:

Washington's Justice Information Network (JIN) Program

The Justice Information Data Exchange (JINDEX) was designed to improve accessibility to law enforcement information. The JINDEX is an integration platform designed to increase public safety by allowing for the exchange and

[51] http://www.tiaonline.org/standards/technology/project_25/

transfer of information in a timely, complete, and accurate way throughout the statewide justice community.

The development of the JINDEX resulted in the state's successful deployment of two applications that facilitate information sharing:

- **Statewide Electronic Collision & Ticket Online Records (SECTOR)**
  SECTOR automates the traffic citation and collision reporting process, creating a seamless, electronic document flow across multiple state agencies. State and local law enforcement officers are able to electronically generate traffic and collision reports in their patrol cars using a scanner and laptop computer. These electronic documents are uploaded to the central Washington State Patrol (WSP) SECTOR server and sent to the JINDEX.

  Once received by the JINDEX, these records are routed to the Washington State Department of Transportation (WSDOT), the Department of Licensing (DOL), and the Administrative Office of the Courts (AOC) for processing and disposition. As a result, processes that once took days can be accomplished in seconds.

- **Possible Criminal History and Case and Criminal History (PCH/CACH**)
  PCH/CACH provides law enforcement professionals with quick and seamless access to a person's criminal and court case history. With PCH/CACH, information like warrants and protection orders from multiple criminal justice agencies is returned through a single query – simplifying investigations, charging decisions, and sentence determinations.

  PCH/CACH maximizes your investment in existing IT systems. Law enforcement officials only need to sign on to their 'home' application to gain access to information contained in state and federal systems. Staff's interaction with familiar interfaces eliminates additional training and learning curves, and yields a critical business result - improving public safety by getting better, faster information to law enforcement officers in the field.

The Washington Integrated Justice Information Board (WIJIB) has endorsed five strategies to pursue over the next two years to integrate justice information across the state.

1. Enhance the JIN.
2. Develop and support technology and design principles.
3. Develop and sustain robust and reliable integrated services in response to business needs.

4. Maintain security and privacy rights.
5. Establish effective means for oversight and adherence of policies and standards.

Sharing criminal justice information, everything from traffic violations to past convictions, is a complicated process when data is stored in many formats and among multiple agencies. Collecting information from numerous sources can be time consuming and lead to inaccuracy, incompleteness, and other significant errors that affect public safety.

The SIEC and the WIJIB remain committed to developing data interoperability projects that support public safety officials in the state of Washington.

Strategy for Addressing Catastrophic Loss of Communication Assets

This SCIP adheres to a strategy for addressing catastrophic loss of communication assets by developing redundancies in the communications interoperability planning at all levels of government and across systems.

Best practices:

Design redundant data center/netops located in different regions.

- Deploy redundant/self healing network backbone infrastructure.
- Share infrastructure where appropriate.
- Deploy pre-positioned interoperable tactical restoration communications systems for immediate deployment during an emergency or major disaster.
- Maintain a robust, flexible, and scalable Strategic Technology Reserve to pre-position or secure interoperable communications in advance for immediate deployment is a valuable approach for all-hazards mitigation.

The Washington State Comprehensive Emergency Management Plan (CEMP) is a strategy that prepares the state for recovery operations following a major incident, such as a hurricane, earthquake, or terrorist attack or any other event where there is a risk that communications assets will become inoperable.

The intent of the CEMP is to minimize the impacts of emergencies and disasters on the people, property, environment, and economy of Washington State.

The CEMP establishes emergency management functions and the responsibilities of the Washington State Military Department, Emergency Management Division (EMD), state agencies, commissions, boards, and councils. This document is a comprehensive plan for statewide mitigation, preparedness, response, and recovery activities.

The CEMP Annex for Emergency Support Function 2 (ESF2) Telecommunications/Information Systems and Warning provides guidance for organizing, establishing, and maintaining the telecommunications and information system capabilities necessary to meet the operational requirements

of state and local jurisdictions in responding to, and recovering from, emergencies and disasters. The Scope of this ESF as described in two appendices is the coordination of state and local jurisdictions actions to be taken to establish and maintain telecommunications, information systems, and warning support in preparation for, response to, and recovery from an emergency or disaster which affects the population and operation of local and state government.

The role PSIC-funded equipment will play in public safety wireless communications survivability and recovery is redundancy creation, survivability, enhancement, and capability gap filling.

The primary technology strategy contained within this SCIP is based upon Internet protocols. Internet-based voice technologies lend themselves well to the strategy contained within this document referred to as a 'system of subsystems'.

The basis of the SCIP document is to build a system of subsystems by leveraging existing systems, identifying gaps within or between existing systems, and mitigating those gaps through partnerships, grants or training. Typical emergency communication systems are built with inherent redundancies that mitigate catastrophic loss of communication assets. The strategy moving forward within this document is to integrate existing systems in such a fashion that should a system or subsystem fail, alternative systems would provide disaster recovery.

For example, the Olympic Public Safety Communication Alliance Network is a partnership of over 40 agencies working together to create a system leveraging microwave, fiber, and leased lines from a number of different providers that create redundancies in the communications interoperability plan. The Washington State Patrol designs and implements its statewide systems with inherent redundancies such as looped microwave systems and disaster recovery.

Loss of key transmitter sites could result in the loss of coverage for specific frequencies. However, alternative sites, systems, or temporary measures such as tactical base stations exist to mitigate and minimize the risk of losing key transmitter sites.

Strategy for Communications Interoperability with Major Transit, Ports and Rail

Washington has long been aware of the important role that mass transit agencies play in emergency response to large scale incidents. A 2001 SAFECOM study performed in Clallam County, Washington revealed this area to be one of the gaps in their counties ability to respond to an incident. As a result, the transit agencies were brought in as a leading partner in the OSPCAN Radio over Internet Protocol interoperability project on the Olympic Peninsula.

Since most of the transit organizations are regional in nature, the strategy to engage them is a two pronged approach. The SIEC will collaborate with the

Washington State Transit Association Transit Security Council, http://www.watransit.com/index.html, and encourage local and regional emergency management organizations to include the interoperability needs of local transit organizations in their regional planning efforts.

This strategy is in its initial phase and will be developed further as collaborative planning matures.

Strategic Initiatives

The state identified the following set of specific strategic initiatives that will be undertaken in support of SIEC's vision, mission statement, and goals and objectives. These strategic initiatives are derived from analysis of the critical components of the SAFECOM Interoperability Continuum and will be accomplished to achieve the state's interoperability vision. All of these critical components were considered during analysis of the following strategic initiatives.

- Preparation for the 2009 Police and Fire Games and 2010 Olympics communications interoperability requirements (Phase 1 of the SIEC's strategy for a statewide P25 network, Technology) (Goal 2, 4, 5, 8).
- Encourage the state's metropolitan areas to organize in to Metropolitan Area Security Initiatives (MASI). (Governance) (Goal 2, 6, 9).
- Support and encourage the establishment of Regional Interoperability Committees (RIC). (Governance) (Goal 1, 2).
- Continue SIEC Outreach Plan for coordination with local jurisdictions. (Governance) (Goal 1, 2, 3, 4, 5, 6, 7, 8, 9, 10).
- Support and encourage local implementation of a multiple subsystems architecture using IP interface to maximize use of existing legacy equipment during migration to P25 technology. (Technology) (Goal 3, 4, 5).
- Support expansion of OPSCAN. (*Governance, SOPs, Technology and Training and Exercises) (Goal 1, 2, 3, 4, 5, 6, 7, 8, 9).*
- Enhance statewide digital transport backbone system through microwave and IGN/SGN connections and satellite where appropriate. (Technology) (Goal 3, 7)**.**
- SOPs development, training and interoperability exercises. (Goal 6, 8, 9)
- Expansion of Mutual aid channels (OSCCR Phase-2) (Technology) (Goal 6).
- Deployment of 700 MHz ICALL interoperability (Technology) (Goal 4, 7).
- Encourage local jurisdictions and state agencies to use the Communications Assets Survey and Mapping (CASM) tool. (Goal 1, 6).
- Develop processes and procedure to identify and adopt best practices. (SOP, Goal 6, 9).
- Develop funding for an annual Interoperability Summit. (Governance) (Goal 1, 6, 9 and 10).

Top Priority Strategic Interoperability Initiative: Preparation for the 2009 Police and Fire Games and 2010 Olympics Communications Interoperability Requirements

The top priority strategic interoperability initiatives the state of Washington will focus on over the timeframe specified in this version of the SCIP directly support the 2009 World Police and Fire Games and the 2010 Winter Olympics Games Security, here after referred to as the 2010 Olympics.

The 2010 Olympics & Paralympics and 2009 World Police and Fire Games Security Committee Communications Interoperability Work Group is planning the state response.

The 2010 Olympics preparations are unique in that they occur almost directly on the U.S./Canadian border and do not fit either of the traditional large scale international athletic event support constructs. Events occurring in the U.S. are declared National Special Security Events (NSSE). NSSE are led by the U.S. Secret Service and bring substantial security resources. International athletic security events occurring in a neighboring country are led by the U.S. Department of State forward in the host country operations center primarily through diplomatic channels.

The 2010 Olympics communications interoperability requirements fall in a gap area. A valley between an event being truly overseas and the comfort of NSSE resources normally provided for a domestic event. This event is not resourced or led as a NSSE but occurring so close to the United States that it might as well be listed as occurring here.

There are potentially large impacts to the U.S. in the vicinity of the state of Washington. There are many unique challenges that come with being the transportation gateway to major international sporting event.

The challenges faced with communications plans are the ability deploy interoperable systems for responders along the northern border. Both countries have inherent challenges due to treaty and frequency management issues. The ability to coordinate the resources of many disparate federal, state, local, and tribal agencies places a singularly unique burden upon the planning ability of the state of Washington. Overcoming the gaps in interoperability identified during planning activities is critical to the security operations of the state and the federal government during these events.

The state of Washington formed a Security Committee made up of over 40 stakeholders from federal, state, local, tribal, and Canadian agencies, associations and the private sector entities. The goal of this Committee is to work collaboratively in preparation for the events in order to identify potential impacts and develop responses needed provide security along our common border. The Committee includes almost 300 stakeholders and six work groups; planning and operations, intelligence information sharing, training and exercises,

public information, logistics, admin and finance, and communications interoperability.

The Communications Interoperability Work Group includes over 30 members who are working on solutions and plans to support both games. Some challenges that face the communications interoperability work group include:

- Funding to expand the Department of Justice Integrated Wireless (IWN) Network within the state to provide multi-jurisdictional mutual aid channel coverage in the gap areas identified during planning.
- Replacing or upgrading equipment that exceeded its planned life cycle.
- Coordination of radio spectrum adjacent to the U.S./Canadian border above line A and below line B.
- Coordinating with the Royal Canadian Mounted Police (RCMP) to discuss capabilities and enter into support agreements. The U.S. Department of State forbids direct contact with Canadian security elements. All requests for information must be routed through the U.S. Department of State causing delays and inefficiencies.
- Identifying interoperability channels that federal, state, and local jurisdictions can access with their disparate radio technology.
- Encryption and transmission of both data and voice. Federal jurisdictions use encryption while locals do not.
- Availability of resources for creation of a Tactical Interoperable Communications Plan (TICP) that establishes procedures for how federal, state, local, and Canadian security partners interoperate.
- Inventory of current communications systems and capabilities in the regions that could be affected by the games.
- Developing a frequency management plan within the state and across the border with Canada.
- Developing strategies for responses needed in the vicinity of common border crossings during the high volume traffic movement pursuant to the games.
- Resourcing, planning, and staging communications exercises to practice with federal, state, local, tribal, and Canadian security partners prior to the games.
- Funding for collective communications needs when so many agencies and jurisdictions are involved, participation is voluntary and appropriated dollars have not been provided by the federal government to protect the U.S. International border during the games.
- Establishing processes to resolve jurisdictional conflicts that may arise when working in combined operations during a large-scale event.
- Creating a Common Operating Picture (COP) for a large scale, mutli-jurisdictional and multi-agency international event.

The Communications Interoperability Work Group was assigned the mission essential task of integrating appropriate mission critical information technology

(IT) systems. The intent of the communications interoperability workgroup is to leverage existing initiatives in Washington State.

The state of Washington has several initiatives underway that seek to identify and address data interoperability. These include local initiatives for creation of interfaces between existing disparate justice information databases such as those in King and Whatcom County. The state of Washington is moving forward with providing tactical information to public safety personnel with programs such as the state's Justice Information Network Possible Criminal History and Case and Criminal History application. In addition, the Statewide Electronic Collision and Ticket Online Reporting (SECTOR) project automates the collection and routing of citations and collisions among local and state record systems. The Washington Association of Sheriffs and Police Chiefs (WASPC) is overseeing a school mapping project and Kitsap County is implementing a suspect identification project using portable finger print identification technology.

The Communications Interoperability Work Group's intent is to make use of existing successful data sharing efforts by developing them further for the 2010 Olympics effort and leaving them in place for continued use by local jurisdictions. The workgroup is using tools developed and implemented for the Seattle UASI as a natural starting point. It is anticipated that those systems will continue to be expanded statewide following the 2010 Olympics.

Metropolitan Area Security Initiatives (MASI)

The SIEC encourages the state's metropolitan areas to organize in to Metropolitan Area Security Initiatives (MASI) in order to facilitate interoperability, coordination and tactical planning. The Washington SCIP incorporates the highly detailed tactical communications planning that is on-going in the two UASI areas established in the state of Washington. The UASI groups publish Tactical Interoperability Communications Plans (TICP) that are valuable sources of interoperable communications experience, knowledge and procedures. This TICP information is highly valuable to the other metropolitan areas of the state and the SIEC encourages their adoption.

The TICPs are incorporated into the SCIP directly or by reference to ensure synchronization of the plans, ensure attainment of plans goals and objectives, to identify interoperability gaps, and to elicit continued coordination between the groups.

The TICP process contains an interoperability assessment component for measurement of the maturity of communications interoperability in a UASI, MASI, or other organized regions. The Department of Homeland Security (DHS) evaluates UASI interoperability plans and issues Tactical Interoperable Communications Scorecards that assess and evaluate Governance, Standard Operating Procedures (SOP), and Usage elements of the TICPs against the SAFECOM Interoperability Continuum.

The on-going reassessment of TCIP goals and objectives provide for the realignment or adjustment of these plans to compensate for identified scorecard deficiencies or unforeseen variances in the plans. This score card evaluations can provide the basis for funding request needed to fill identified gaps.

Regional Interoperability Committees (RIC)

The SIEC encourages and supports the establishment of Regional Interoperability Committees (RIC) in order to encourage interoperability improvement and synchronize state and regional planning.

These planning entities can, among other things, address the requirements of the TICP scorecard by improving governance and refining SOPs.

Establishing an RIC creates an organized process for synchronizing the existing local and regional communications strategies in order to identify longer term interoperability goals across multiple jurisdictions and levels of government. A regional organization can facilitate interoperability by adopting the detailed work of the UASI TICPs and tailoring that information for local use during training and incident response.

The SIEC Outreach Plan and RIC model enhances the SIEC's ability to foster cooperation, coordination, and strategic planning among cross-jurisdictional and cross-disciplinary public safety organizations and emergency response organizations.

This governance model can facilitate more local involvement in the SIEC's SAW Group through dialog, mutual support and possible future SIEC approved RIC nominated members.

Multiple Subsystems Architecture

OPSCAN is a fully functional example of a locally driven interoperability initiative that uses the multiple subsystems approach to connect disparate legacy systems. The SIEC encourages local jurisdiction to join OPSCAN if feasible or replicate the successful consortium approach elsewhere in the state. The OPSCAN model is a good example of multiple subsystems architecture using IP interface to maximize the use of existing legacy equipment during migration to P25 trunked technology.

The proposed OSCCR Network Phase 2 project will follow this model to expand the OSCCR mutual aid channel to more regions across the state.

Backbone

The SIEC will support local and state initiatives' that enhance and expand the state's digital transport backbone systems through microwave upgrades to digital systems and definition of RoIP/VoIP connections standards for the Inter-Governmental Network (IGN) or State Government Network (SGN). These technology initiatives will allow statewide interoperability connections of disparate radio systems, including future 700 MHz systems, via IP based solutions.

Statewide Capabilities Assessment Plan Update: CASM Tool

The SIEC adopted a strategy that encourages the statewide use of the Communication Assets Survey and Mapping (CASM) tool to update the current statewide technology assessment; see Appendix E - Excerpt from the Inventory of Public Safety Communications Systems – Phase 2 Report: Radio Inventory Survey, February 2005. This tool will determine available interoperability links and update the state's technology inventory.

To facilitate this inventory, the SIEC requested that the Interoperable Communications Technical Assistance Program (ICTAP) delete the current unused state of Washington CASM database view and replace it with the populated database view created by the Seattle UASI counties.

As part of the TICP effort, Clark County, Snohomish County, King County, and Pierce County populated the CASM tool. As a part of the OPSCAN consortium effort and planning for the 2010 Winter Olympic Games, seven additional counties will also populate the CASM tool by 2010.

The plan to facilitate use of and administer the statewide database for the rest of the state is to assign administrative manager rights to the SIEC's Lead Agency employee responsible for frequency management, once the individual is recruited and hired.

Strategy for Continuing Support to Legacy Systems

The SIEC planned the strategy for continuing support of legacy systems and developing interfaces among disparate systems, while migrating to newer technologies as is detailed in Section 4.2 Technology. However, ultimately it is the responsibility each agency and jurisdiction to plan their strategy for their owned and operated legacy networks. In summary, the SIEC strategy employs a multiple subsystems architecture that consists of the following key elements[52]:

- A Radio over Internet Protocol (RoIP) based interoperability system that enables non-state agencies to interconnect their radio systems with the state system. RoIP also provides immediate improvements in the ability of existing state agency systems to interoperate. For the purposes of the SIEC's Technical Implementation Plan (TIP), RoIP refers to the use of internet protocol (IP) networks as the backbone to carry the base band audio voice traffic (VoIP) between radio base stations and console equipment. Today, IP networks can carry both voice and data for public safety purposes. Please refer to the definition of VoIP in Appendix B – Glossary.
- A statewide digital transport backbone system that provides connectivity to all transmitter locations. It also provides the interface to other state and

[52] Technical Implementation Plan (TIP), November 2005, pg iii. http://isb.wa.gov/committees/siec/publications.aspx

federal networks for access to various applications and data that are available.

- A mutual-aid communications system deployed across the state to enable interoperability at and across the commonly-used public safety frequency bands (VHF Low, VHF High, UHF and 700/800 MHz). This allows those agencies that have not yet implemented standards-based communications capabilities to communicate directly with state agencies and dispatch centers.
- A statewide, Project 25 (P25) standards-based, frequency independent system of systems that uses equipment common to all agency focused systems providing full interoperability. It provides connectivity and interoperability to all state agency participants, and federal, local, and tribal agencies that choose to participate in the system.
- A statewide mobile data system that provides ***data*** communications capabilities for participating agencies' subscribers.

Migration Strategy

The SIEC's migration strategy for moving from existing technologies to newly procured technologies as was detailed in Section 4.2 Technology. However, ultimately it is the responsibility each agency and jurisdiction to plan their strategy for their owned and operated legacy networks. The SIEC's strategy is summarized in the following paragraphs.

The implementation plan focuses on the following activities as part of the detailed design and implementation process:

- Reconfirm the capabilities and gaps related to interoperability between state agencies and local, tribal, and federal agencies.
- Prioritize those gaps through the SAW Group with representation from state, local, tribal, and federal agencies.
- Identify technology solutions that can provide the most benefit in the shortest amount of time. The most likely technologies to provide this kind of a solution are gateway-based, and include a range of hardware and/or software-based capabilities.
- Choose a pilot area, then procure and implement the proposed solution.
- Assess the results of the pilot, modify as required and deploy statewide.

This approach will maximize the ability to improve interoperability, coverage and channel capacity with the local, tribal, and federal agencies. It is anticipated that this first phase could be completed within 18 months of a decision to move ahead.

The process that will be used to ensure that new purchases comply with the statewide plan, while generally allowing existing equipment to serve out its useful

life is was detailed in Section 4.2 Technology is summarized in the following paragraphs.

Strategy for Ensuring New Purchases Are in Compliance with this Plan

The SIEC is responsible for coordinating the purchasing of all state agency wireless radio communications system equipment to ensure that the equipment complies with the Revised Code of Washington, section 43.105.330, requirement to be P25 capable or upgradeable. This law ensures that all new state agency radios are compliant with the Washington SCIP.

The Washington Military Department acting in its capacity as the State Administrative Agency (SAA) appointed the SIEC as the Project Approval Authority for all PSIC grant investment justifications submitted by non-state agencies. This approval process will ensure all PSIC Grant funded radio purchases comply with the P25 standard and the architecture specified in the Washington SCIP.

The Washington Military Department has final authority to ensure that purchases comply with this SCIP.

Training and Exercises Program Strategy

The process by which the state of Washington will develop, manage, maintain, and upgrade, or coordinate as appropriate, a statewide training and exercises program is detailed in section 4.4 Training and Exercise Plan is summarized in the following paragraphs.

The state of Washington has a formal and robust statewide training and exercise program managed by the Washington Military Department's Emergency Management Division (EMD). The state's training program has four key elements that ensure training is cross disciplinary and provides for the appropriate certifications as maybe required by the various programs:

1) State delivery of Federal Emergency Management Agency (FEMA) Professional Development/Advanced Professional Series (PDS/APS) courses and National Incident Management System (NIMS) courses.
2) Residential training of first responders at training facilities under the National Domestic Preparedness Consortium (NPDC). The NDPC membership includes FEMA's Office of Grants and Training (G&T) Center for Domestic Preparedness (CDP) in Anniston, Alabama, the New Mexico Institute of Mining and Technology (NMIMT), Louisiana State University (LSU), Texas A&M University (TEEX), and the Department of Energy's Nevada Test Site (NTS).
3) Coordination of in-state delivery of Department of Homeland Security (DHS) funded courses.
4) Development and delivery of tailored emergency management courses based on county and state needs assessment.

Each year the state EMD hosts a statewide Exercise and Training Workshop for personnel involved in creating training and exercise programs for local, tribal, state, and federal governments. The workshop objectives include:

- Creating a statewide multi-year integrated exercise and training schedule by coordination and identification of statewide exercises and training opportunities during the workshop.
- Homeland Security Exercise and Evaluation Program (HSEEP) hands on toolkit training entering identified statewide exercise and training activities into integrated calendar during the workshop.
- Determining training requirements based on a performance needs analysis.

The statewide Exercise and Training Workshop ensures an on-going process to develop, manage, maintain, and upgrade or coordinate a statewide training and exercises program.

The process for offering and requiring training and exercises, as well as any certification that will be needed is detailed in section 4.4 Training and Exercise Plan. This process is summarized in the following paragraph.

The Washington Military Department's Emergency Management Division (EMD) is required to maintain a process for tracking training certification for six years. This requirement is stipulated in the Revised Code of Washington (RCW). EMD has overarching responsibility for the State Training Program, overseen by the State Training Officer (STO). Certificates are issued to students who apply for training through the state under the authority of the STO, as endorsed by EMD, upon successful completion of training.

The process that ensures that training is cross-disciplinary is detailed in section 4.4 Training and Exercise Plan. This process is summarized in the following paragraphs.

The state's training program has four key elements that ensure training is cross disciplinary and provides for the appropriate certifications as maybe required by the various programs:

1) State delivery of Federal Emergency Management Agency (FEMA) Professional Development/Advanced Professional Series (PDS/APS) courses and National Incident Management System (NIMS) courses.
2) Residential training of first responders at training facilities under the National Domestic Preparedness Consortium (NPDC). The NDPC membership includes FEMA's Office of Grants and Training (G&T) Center for Domestic Preparedness (CDP) in Anniston, Alabama, the New Mexico Institute of Mining and Technology (NMIMT), Louisiana State University (LSU), Texas A&M University (TEEX), and the Department of Energy's Nevada Test Site (NTS).

3) Coordination of in-state delivery of Department of Homeland Security (DHS) funded courses.
4) Development and delivery of tailored emergency management courses based on county and state needs assessment.

The state's training program is robust and well respected for its cross-disciplinary effectiveness.

All the critical components of the SAFECOM Interoperability Continuum were considered when identifying these strategic initiatives.

The plan for ensuring regular usage of the relevant equipment and the SOPs needed to improve interoperability is outlined in Section 4.5 Usage.

Oversight

As is deemed appropriate, these initiatives will be measured through the Washington Governor's Government Management Accountability & Performance (GMAP) program. Through this program the SIEC, to include local government policy makers, provide periodic updates to the state's leadership regarding interoperability and its progress statewide.

5.5 National Incident Management System (NIMS) Compliance

The Washington Statewide Communications Interoperability Plan (SCIP) promotes and supports the use of National Incident Management System (NIMS) through synchronization with the Washington Statewide Homeland Security Strategic Plan 2006-2011"[53] and the action plans contained there in.

The State Interoperability Executive Committee (SIEC) serves as a part of the state of Washington's multi-jurisdictional Domestic Security Infrastructure, Team Washington. The Team Washington approach promotes NIMS compliance through multi-disciplinary working groups and committees that ensure all aspects of NIMS remain at the forefront during strategic planning.

The Washington Military Department's Emergency Management Division (EMD) is responsible for monitoring NIMS compliance for local, state, and government agencies. Policies and procedures are in effect to track and report NIMS compliance activities for all governmental and tribal response, emergency preparedness, and incident management organizations.

NIMS implementation progress is measured at all levels of government and tribes using an electronic reporting tool, The Washington State National Incident Management System (NIMS) Progress Report[54], and by use of an interagency coordinating group to provide guidance and direction through briefings and workshops. NIMS compliance stipulations are also incorporated into sub grantee contract language and are part of sub grantee monitoring. Eligibility to receive federal preparedness funding in FFY 2008 is contingent upon local, tribal, and state jurisdictions meeting NIMS implementation requirements.

State of Washington NIMS compliance levels are reported through the Governor's Governmental Management and Accountability and Performance (GMAP) forum. The Governor and her leadership team meet with agency directors approximately twice a month to evaluate agency results. These meetings provide an opportunity for candid conversations about what is working, what is not, and how to improve.

State of Washington assesses the current level of NIMS compliance within the state as overall high. See Table 24 Statewide NIMS Implementation for the April 2007 GMAP assessment of the "tier1" requirements.

[53] Washington Statewide Homeland Security Strategic Plan 2006 – 2011, pg2, http://www.emd.wa.gov/plans/documents/WAHLSStrategic2006-2011.pdf

[54] Submit a NIMS Report, http://emd.wa.gov

Table 24 Statewide NIMS Implementation

Requirement		Requirement	
Adopt NIMS	94%	Complete ICS-100	80%
Promote NIMS	98%	Complete ICS-200	81%
Use ICS for all hazards	97%	Incorporate NIMS into exercises	94%
Establish NIMS baseline	71%	Use exercises to evaluate NIMS implementation	76%
Use DHS funds to coordinate preparedness & response activities	98%	Participate in multi-discipline/jurisdictional exercises	92%
Update plans, checklists and SOP's	83%	Incorporate corrective actions and lessons learned into plans and procedures	94%
Promote interagency and interstate mutual aid	98%	Inventory response assets	76%
Complete IS-700	85%	Achieve interoperability in accordance with national standards & guidance	94%
Complete IS-800	71%		

The Washington SCIP is compliant with the National Incident Management System (NIMS) and the National Response Plan through the goals and objectives contained in the Washington Statewide Homeland Security Strategic Plan 2006-2011.

The SIEC's responsibilities for improving interoperability are documented in the Washington Statewide Homeland Security Strategic Plan 2006-2011, Section B. Communications. These goals are:

> *B. Communication:*
> *GOAL 2.1 Promote Communications Interoperability*
> *GOAL 2.2 Gather and Share Information in Support of Regional Partnerships*
> *GOAL 2.3 Protect Information Sharing and Communications Systems*

Team Washington established several NIMS and National Response Plan goals that compliment the SIEC's interoperability goals. These goals will strengthen response capabilities that prepare first responders and citizens for All-Hazards Events. This priority has six goals beginning with institutionalizing both the National Incident Management System (NIMS) and the National Response Plan (NRP). The goals also focus on enhancing incident management, regional response and resource management capabilities, as well as increasing citizen preparedness and participation. The preparedness and response goals are:

> *E. Preparedness & Response: 25*
> *GOAL 5.1 Institutionalize the National Incident Management System (NIMS) 26*
> *GOAL 5.2 Institutionalize the National Response Plan (NRP) 26*
> *GOAL 5.3 Enhance Our Incident Management Capability*
> *GOAL 5.4 Strengthen Regional Response Capabilities 30*

GOAL 5.5 Build Resource Management Capabilities 34
GOAL 5.6 Increase Our Citizen Preparedness and Participation

The role that Public Safety Interoperable Communications (PSIC) funded equipment will play in enabling or improving NIMS compliance will be to further the interoperability of all agencies that are awarded PSIC funding. This role is critical to the replacement of old technology that is in use throughout the state at all levels of government. Modern equipment will facilitate the interagency communications that NIMS procedures seek to standardize by enabling better use of the Incident Command System.

Local jurisdictions, as well as tribal and state government agencies are responsible for following requirements:

1. Adopt NIMS for all government departments and agencies.
2. Manage all emergency incidents in accordance with the Incident Command System.
3. Coordinate and support incidents through the use of Multi-Agency Coordination Systems.
4. Communicate information to the public through a Joint Information System and Joint Information Center.
5. Establish the communities' NIMS compliance baseline.
6. Coordinate federal preparedness funding to implement the NIMS.
7. Revise and update standard operating procedures to incorporate the NIMS.
8. Participate in and promote mutual aid.
9. Complete the IS-700 course.
10. Complete the IS-800 course.
11. Complete the ICS 100 course.
12. Complete the ICS 200 course.
13. Incorporate NIMS into training and exercises.
14. Participate in all-hazards, multi-jurisdictional/discipline exercise based on the NIMS.
15. Incorporate corrective action into response plans and procedures.
16. Inventory response assets to conform to resource typing standards.
17. Ensure relevant national standards are incorporated into equipment acquisition programs.
18. Apply standard terminology across the public safety sector.

The state of Washington is responsible to local and tribal entities for the following support and leadership:

- Monitoring formal adoption of NIMS.
- Communicating implementation requirements.
- Measuring progress.
- Facilitating reporting.
- Ensuring federal preparedness funding is linked to satisfactory progress.
- Including implementation compliance reviews in audits.

- Monitoring and assessing outreach efforts across the state.

The state of Washington is committed to ensuring NIMS compliance and training are at the forefront of our strategic planning efforts.

5.6 Review and Update Process

This SCIP is a living document derived from past and ongoing statewide strategic planning. It is synchronized with many other federal, state, tribal, regional, and local plans and requires periodic updates that are coordinated with the strategic direction of the state, federal and local jurisdictions. This update and review process is established to manage changes, plan future initiatives and track successes that occur during implementation.

Full SCIP review will occur biennially. The State Interoperability Coordinator or the SIEC designated point of contact is responsible for the review and update process. The process will ensure the SCIP is synchronized with statewide strategic planning and implementation efforts. Subsequent versions of the SCIP will establish new strategic initiatives, track progress against previous strategic initiatives and reflect the milestones accomplished during the previous implementation cycle.

The SIEC will have an annual Interoperability Summit, at which time the SCIP can be reviewed and discussed.

The State Interoperability Coordinator or a SCIP designated point of contact will utilize the SIEC Outreach and Public Affairs Program to solicit and incorporate input from local jurisdictions. Use of the SIEC's outreach program will ensure widest dissemination of the plan for review and comment by the emergency response community, participating agencies, and interested parties.

It is the intent of the SIEC to further the collaborative strategic planning process that produced the SCIP and the TIP. The update process will solicit input from regional emergency response personnel during subsequent planning efforts to ensure transparency and facilitate local support. Briefings will be conducted with the Committee for Homeland Security and through the Regional Homeland Security Coordinators to ensure that planning is communicated to the emergency response communities in all regions of the state.

All updates and future collaborative planning events will be communicated the emergency response community through the SIEC Outreach and Public Affairs Program.

The SIEC is responsible for approving new strategic initiatives contained in updated SCIP.

The update and review process will incorporate current United States Department of Homeland Security, Office of Interoperability and Compatibility (OIC) SAFECOM and Disaster Management (DM) programs SAFECOM methodology, practices, and procedures[55].

[55] Statewide Communications Interoperability Planning (SCIP) Methodo0logy v2.0, not dated.

6. Implementation

The SIEC's Technical Implementation Plan (TIP) provides guidance for the state government to move ahead with the development of a statewide interoperable public safety communications system. The proposed system will provide significant improvements in how state agencies communicate among themselves, with each other and with the local jurisdictions when proving crucial public safety support and services. The system will also provide state agencies with the capabilities to improve their interoperability with federal, local, and tribal entities regardless of frequency band.

The TIP provides a high-level strategy for planning the transition of the current state agency-based public safety mobile radio systems to a standards-based, frequency-independent, multiple subsystems technology architecture.

The multiple subsystems architecture consists of the following key elements[56]:

- A Radio over Internet Protocol (RoIP)-based interoperability system that enables *non-state agencies* to interconnect their radio systems with the state system. RoIP also provides immediate improvements in the ability of existing state agency systems to interoperate. For the purposes of the SIEC's Technical Implementation Plan (TIP), RoIP refers to the use of IP networks as the backbone to carry the base band audio voice traffic (VoIP) between radio base stations and console equipment. Today, IP networks can carry both voice and data for public safety purposes. Please refer to the definition of VoIP in Appendix B – Glossary.
- A statewide digital transport backbone system that provides connectivity to all transmitter locations. It also provides the interface to other state and federal networks for access to various applications and data that are available.
- A mutual-aid communications system deployed across the state to enable interoperability at and across the commonly-used public safety frequency bands (VHF Low, VHF High, UHF and 700/800 MHz). This allows those agencies that have not yet implemented standards-based communications capabilities to communicate directly with state agencies and dispatch centers.
- A statewide, Project 25 (P25) standards-based, frequency-independent system of systems that uses equipment common to all agency focused systems providing full interoperability. It provides connectivity and interoperability to all state agency participants, and federal, local, and tribal agencies that choose to participate in the system.

[56] Technical Implementation Plan (TIP), November 2005, pg iii. http://isb.wa.gov/committees/siec/publications.aspx

- A statewide mobile data system that provides *data* communications capabilities for participating agencies' subscribers.

Please see Section 2 Background for more detail regarding the proposed multiple subsystems architecture and RoIP/VoIP system.

The state of Washington can expect some obvious tangible improvements in public safety communications as a result of deploying the proposed multiple subsystems architecture. These improvements will be most noticeable to end users who will experience the following improvements in voice and data radio communications:

- Statewide coverage enhancements for mutual aid.
- Signal and voice quality improvements resulting from digital technology.
- System functionality additions for mutual aid and mobile data.
- Usability enhancements of the proposed system capabilities.
- Interoperability with other state, federal, and local government agencies.

Based on the experiences of other states, the real value to the state of Washington is two fold: minimized costs for labor and equipment and improved public safety.

The anticipated benefits[57] include:

- Avoid potentially redundant costs by implementing shared systems between agencies that can consolidate fixed assets. This reduces the amount of duplicated infrastructure, and system management and operational expenses including network connectivity, maintenance, leased lines fees, and land leasing fees.
- Increase productivity and responder safety as a result of better coordination between first responders. This occurs with using a shared communications system that handles voice, data, and mutual-aid needs during day-to-day and major emergency situations.
- When we increase statewide functionality, we increase interoperability for all system users with wide area roaming and secure communications for voice and data channels.

All local, tribal, federal, and non-state public safety and initial responder agencies will have an opportunity to share in the benefits of the future state public safety radio system. The multiple subsystems architecture provides several options for non-state emergency response agencies to interoperate with the proposed system. These options include access to the statewide standards-based frequency-independent radio system, shared mutual aid channels, and Radio over Internet Protocol gateway technology.

[57] Technical Implementation Plan (TIP), November 2005, pg ix. http://isb.wa.gov/committees/siec/publications.aspx

The Washington SCIP, version 1, is derived from the TIP and refined by the interoperability requirements identified during strategic planning for 2009 World Police and Fire Games and the 2010 Winter Olympic Games, hereafter referred to as the 2010 Olympics. These requirements further the goals and objectives identified in the TIP for systems implementation activities:[58]

- Choose a pilot area and procure and implement the proposed solution.
- Assess the results of the pilot, modify as required and deploy statewide.

The scope of the TIP applies to state agency communications with the expressed intent of extending the state infrastructure to local and regional jurisdictions.

> *In August 2004, the SIEC initiated this planning effort to identify potential solution options and develop this plan for improving the level of interoperability for state agencies and for providing a roadmap for federal, local, and tribal agencies to follow to be able to interoperate with state agencies[59].*

This methodology and strategy facilitates a regional test bed for the technology necessary to improve interoperability throughout the Pacific Northwest region and is in accordance with the SIEC guiding principles:[60]

- Build wisely, build once and share often.
- All solutions for state funded radio systems should consider the sharing of assets between state and local governments when possible.

This strategy implements a core interoperability solution in support of the 2010 Olympics preparations in Regional Homeland Security Coordination District (RHSCD) 1. The solution will also integrate with the successful interoperability efforts of the OPSCAN Project in RHSCD 2.

The regional interoperability requirements derived from 2010 Olympics planning necessitate integration of existing legacy terrestrial land mobile radio (LMR) systems, satellite communication systems, radio-over-IP technology, public telephone networks, and other emergency communication systems in a proposed joint operation center. The system developed through this effort will be a permanent solution for the public safety agencies in RHSCD 1. The system will be capable of supporting IP based, dispatch operations in remote areas such as larger islands within San Juan County.

This strategy provides a scalable approach to achieving the following:

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[58] Technical Implementation Plan (TIP), November 2005, pg 64.
http://isb.wa.gov/committees/siec/publications.aspx

[59] Technical Implementation Plan (TIP), November 2005, pg 12.
http://isb.wa.gov/committees/siec/publications.aspx

[60] Technical Implementation Plan (TIP), November 2005, pg 26.
http://isb.wa.gov/committees/siec/publications.aspx

- Improving communication interoperability with tribal, local, state, and federal government agencies through Internet based technology in RHSCDs 1 and 2.
- Improving radio coverage for existing mutual aid channels.
- Funding local participation in the proposed regional system.
- Leaving a legacy system in place after the 2010 Olympics that local agencies can use for interoperability immediately and build upon based upon future needs.

Lessons learned and technological solutions engineered during this phase will be applied where appropriate to other jurisdictions as funding matures to support further implementation phases.

The time frame for this phase to accomplish these strategic initiatives is July, 2007 through June 2009. Subsequent phases will be planned and documented as are appropriate to the specific jurisdiction or region and referenced to this SCIP.

The scope of SCIP implementation is phased, manageable projects that are derived directly from the initiatives published in the TIP and funded through current grants and state legislation. Anything that detracts from interoperable communications or exceeds the funded phased planning approach is considered outside the scope of this project. Contained within this scope is the concept of local organizations working together to build regional interoperable systems.

SCIP and TIP status checks and implementation reports are conducted bimonthly for the SIEC in order to provide updates on progress of strategic interoperability initiatives. Full SCIP review will occur no less than biannually and will be synchronized with statewide implementation efforts.

Prioritized Action Plan with Short and Long term Goals:

Phase I:

2007-09 Biennium Statewide Interoperability Project

Appropriation: $3 million
FTEs: 6
Department of Homeland Security (DHS) Region 1 Coverage

- System Range: 10 miles off I-5.
- East-West: Blaine to Sumas is 23 miles.
- North - South: US-Canadian border to Snohomish County border.

Users: WSP owned infrastructure will be made available for use by local jurisdictions. Local jurisdictions will be able to use existing radios to access the interoperability network through their existing communication system.

Proposed Public Safety Interoperable Communications (PSIC) Grant Funded Projects

The State Interoperability Executive Committee (SIEC) reviewed 23 applications for the Public Safety Interoperable Communications (PSIC) Grant. This grant provides the state of Washington a solid opportunity to improve public safety communications interoperability. The applicants included ten Eastern Washington public safety agencies, eleven Western Washington public safety agencies, and three state agencies.

All of the applications had merit and were worthy of funding. However, due to the limited amount of funding available the SIEC recommended approval of the following projects:

Interoperability for Homeland Security Regions 1 and 2 (OPSCAN)

Homeland Security Regions 1 and 2 have joined together with Washington State Patrol to submit a multi-jurisdictional application including local, state, federal, tribal, and non-governmental agencies to complete a digital microwave transport; expand the Integrated Wireless Network Project 25 trunked communication system; upgrade the existing RoIP network and expand to Region 1; close interoperability gaps; create multi-jurisdictional facilities; and increase interoperability coverage by 80 percent.

This project is a local and state level project that supports the PSIC grant funding goals by expanding coverage of a point-to-point software based Radio over Internet Protocol solution for a multiple sub-systems architecture. It supports SCIP goals 1, 2, 3, 4, 5, 6, 7, and 8 and the state's Technical Implementation Plan (TIP). This project supports the state's highest priority interoperability initiative for support to the 2010 Olympics.

Spokane/Kootenai Regional Emergency Communications System

This project addresses the interoperability requirements of multiple jurisdictions and agencies in the north east corner of Washington. Spokane serves as a regional public safety hub for several Eastern Washington Counties, Northern Idaho, a part of Western Montana, Northeastern Oregon and some of Southern British Columbia. Public safety communications shortcomings addressed by this project are inadequate coverage, no interoperability between agencies and disciplines, antiquated equipment, insufficient spectrum, and a lack of long range strategic planning. This initiative will build the radio sites necessary to provide coverage for a 700 MHz P25 digital trunked radio system for the emergency responders of the region. The systems master controller integrates existing public safety radio systems utilizing various frequency bands and technologies. This project implements an advanced technology, spectrally efficient digital trunked radio system utilizing 700 MHz for voice and data. It will allow user transparent operation across various bands and systems and be the first stage of a region-wide 700 MHz P25 system.

This project improves regional interoperability in a large metropolitan area. It directly supports the funding goals of PSIC grant by creating a spectrally efficient, advanced technology 700 MHz P25, digital trunked radio system that integrates existing radio systems utilizing various frequency bands. This project supports SCIP goals 1, 2, 3, 4, 5 and 7 and state's Technical Implementation Plan (TIP).

Puget Sound Next Generation Voice/Data System (Seattle)

This project provides an advanced technological interoperability solution for the Puget Sound region that provides cost effective and spectrally efficient coverage for the counties surrounding Puget Sound. This project will continue to improve interoperable communications in an urban region that is at high risk for acts of terrorism and natural disasters. It creates the initial operating capability that will eventually provide public safety communications coverage to approximately 64 percent of the state's population. The core infrastructure consists of a next generation, standards-based communications system capable of transmitting voice and data on multiple frequencies within the 700 MHz and 800 MHz bands. Participation in the system is open to all stakeholders; local, city, county, tribal, state agency, nongovernmental and governmental, that are willing to share operating responsibility for the system.

This project directly supports the funding goals of PSIC grant by creating a spectrally efficient, advanced technology 700 MHz P25, digital trunked radio system. It supports SCIP goals 1, 2, 3, 4, 5, 7 and 8 and state's Technical Implementation Plan (TIP). It was developed in collaboration with other PSIC grant funded regional project requests from King, Pierce, Snohomish, and Thurston Counties.

King County South Loop Microwave Project

This project directly Puget Sound Next Generation Voice/Data project developed by the city of Seattle by creating a high capacity microwave backbone that serves the Puget Sound urban area's public safety communications requirements. This backbone project furthers an architecture approach that establishes a framework for interfacing disparate wireless communications systems and facilitates migration to new technologies. It provides the backhaul of federal, state, regional, local, tribal, and non-governmental agency signals. The South Loop Microwave project addresses the immediate interoperable needs of south King County while providing a connectivity path that improves interoperable communications throughout the Puget Sound urban region.

This project directly supports the funding goals of PSIC grant by enabling the creation of a spectrally efficient, advanced technology, 700 MHz P25 digital trunked radio system. It supports SCIP goals 1, 2, 3, 4, 5 and 7 and the state's Technical Implementation Plan (TIP). It is a microwave bandwidth enhancement

project developed in collaboration with the Puget Sound Next Generation Voice/Data System (Seattle) and the Pierce County project.

Pierce County Interoperable Multi-Jurisdictional, Multi-Discipline Radio Network

This project supports the PSIC grant funding goals by creating a governance charter, connecting critical radio and dispatch networks and by providing training for over 3,400 emergency response personnel in an urban area at high risk for terrorism. It supports SCIP goals 1, 2, 5 and 8. It was developed in collaboration with the Puget Sound Next Generation Voice/Data System (Seattle) and the King County South Loop Microwave Project.

Puget Sound Next Generation Voice/Data System (Thurston County)

This project complements the Puget Sound Next Generation Voice/Data project developed by the city of Seattle. It is a three phase project that builds out microwave capacity necessary for regional interoperability improvement in phase one, Internet Protocol (IP) gateway switching and console equipment in phase two and creates the capacity to switch both voice and data on multiple interoperable channels across disparate radio bands including ITAC, VTAC, LERN, REDNET, OSCCR, Search and Rescue and 700 MHz in Phase 3. The core of the system is an advanced technology, a next-generation, Internet Protocol (IP), Project 25-standard switch that provides interconnection via high capacity microwave systems owned and operated by a consortium of counties from ranging the Canadian border through Thurston County along the I-5 corridor. Participation in the system is open to all stakeholders; local, city, county, tribal, state agency, nongovernmental, and governmental, that are willing to share operating responsibility for the system.

This project directly supports the funding goals of PSIC grant by creating the first phase of a spectrally efficient, advanced technology, 700 MHz P25 digital trunked radio system. It supports SCIP goals 1, 2, 3, 4, 5 and 7 and the state's Technical Implementation Plan (TIP). Phase 1 is a microwave bandwidth project developed in collaboration with the City of Seattle's Puget Sound Next Generation Voice/Data System that will improve regional interoperability.

Phase II: 2007-09 Biennium Statewide Interoperability Project - Supplemental

Appropriation: $10 million

FTEs: 6 continued from Phase I

DHS Region 1 Coverage

- System Range: Island, San Juan, Skagit, and Whatcom counties
- County wide coverage: Implement a core central network radio over IP hub that ties together existing local radio systems. Deploy integrated satellite units capable of voice and data to fill in coverage

holes in existing local communication systems. Expand mutual aid coverage throughout all 5 counties in Region 1.

Users: WSP-owned infrastructure will be made available for use by local jurisdictions. Local jurisdictions will be able to use existing radios to access the interoperability network through their existing communication system.

Phase III: 2009-11 Biennium Statewide Interoperability Project

Appropriation: $17 million

FTEs: 6 continued from Phase I, 4 additional for a total of 10 FTEs.

Statewide Coverage

- Deploy radio-over-IP access points statewide.
- Deploy P25 communication sites in DHS Region 1 up to the Cascade Mts.

Users: WSP owned infrastructure will be made available for use by local jurisdictions. Local jurisdictions must use P25 capable radios to access the P25 radio system. Locals will be able to connect to the interoperability network with existing radios through their legacy radio networks. However, P25 features will not be available on non-P25 enabled radios.

Performance Measures

Performance will be measured through the Washington Governor's Government Management Accountability & Performance (GMAP) program. Members of the SIEC, to include local government, provide periodic updates to the state's leadership regarding interoperability and its advancement in the state. The basis for the policy decisions is derived from the following measurements.

1. Percentage of the state geography with mutual aid communications
   - Percentage of the state geography with VHF mutual aid communications
   - Percentage of the state geography with UHF mutual aid communications
   - Percentage of the state geography with 700/800 MHz mutual aid communications
2. Percentage of the state population with mutual aid communications
   - Percentage of the state population with VHF mutual aid communications
   - Percentage of the state population with UHF mutual aid communications
   - Percentage of the state population with 700/800 MHz mutual aid communications
3. Number of communication systems connected through gateway technology, RoIP, or console patches.
   - Number of local, tribal, and federal systems connected to the state system.
   - Percentage of the number of systems connected in relation to the total number of systems.
   - Percentage of state population served by local, tribal, and federal systems connected to the state system.
4. Percentage of the state geography with P25 communications.

- Percentage of the state geography with P25 VHF mutual aid communications
- Percentage of the state geography with P25 700/800 MHz mutual aid communications

5. Percentage of the state population with P25 communications.
   - Percentage of the state population with P25 VHF mutual aid communications
   - Percentage of the state population with P25 700/800 MHz mutual aid communications

As PSIC recipients moved their projects forward. Their successes will be tracked with these performance measures to help state decision makers address current and future interoperability issues in the state of Washington.

Additional Performance Measures

Through semi-annual progress reports on individual goals, objectives, and implementation steps the SIEC will be able to review progress toward achieving the goals and objectives in the SCIP. In addition, successes and challenges will be identified through this process and the SIEC may assign resources based on identified performance deficiencies. The SIEC has to provide regular updates to the Information Services Board. State agency projects are monitored through accountability reporting. Grant funded projects will have oversight through the grant administrator and the audit mechanism in place for the specific grant.

The SCIP will ensure that PSIC grant funds are properly spent in support of the state plan through the review and update process identified in section 5.6 of this plan. The process will ensure the SCIP is synchronized with statewide strategic planning and implementation efforts. Subsequent versions of the SCIP will establish new strategic initiatives, track progress against previous strategic initiatives and reflect the milestones accomplished during the previous implementation cycle. All future versions of the Washington SCIP will evaluate success, identify gaps and set new objectives to improve communications interoperability. This includes projects and initiatives funded with PSIC grants.

Plan for Educating Policy Makers and Practitioners on Interoperability Goals

In conjunction with the SIEC's Outreach Plan, the SCIP will be disseminated to the widest possible audience, including policy makers and practitioners. Policy makers and practitioners will be invited to attend the SIEC's annual Interoperability Summit. A Communications Outreach Coordinator will implement the SIEC Outreach Plan. Please refer to Appendix F- SIEC Outreach and Public Affairs Plan 2007-08.

Additionally, the SIEC will make periodic status and performance reports to the Governor through the GMAP process.

Roles and Opportunities for Involvement of All Agencies in the Implementation of the Statewide Plan

There is an opportunity with the annual Interoperability Summit for all agencies to participate in review of the statewide communications interoperable plan. The Lead Agency will provide an implementation progress report at the annual Summit.

SIEC meetings are open venues and all agencies are encouraged to attend. Progress reports are provided at these meetings and posted on the SIEC website at www.siec.wa.gov. Agencies roles will be facilitated through the regional interoperability committee structure and provide an avenue for collaboration with the SIEC implementation efforts. As part of outreach efforts identified in the Outreach Plan, participation by all agencies will be solicited.

Plan for Identifying, Developing and Overseeing Operational Requirements, SOPs, Training, Technical Solutions, and Funding Sources

The plan for identifying, developing, and overseeing operational requirements, SOPs, training, technical solutions, and funding sources is to highlight these priorities as an ongoing outreach objective and a focus area for the annual Interoperability Summit. Therefore the deliverable from this effort will be the establishment of a prioritized list of projects, which would then be used as the basis for future SCIP goals and objectives and investment justifications for future funding opportunities.

As interoperability efforts progress, it is expected new issues to arise. Those issues and challenges that do arise will be addressed through the state interoperability coordination meetings between Regional Interoperability Committees (RICs) and the SIEC. The SCIP will incorporate their best practices to ensure continuity of interoperability services and to identify methods for improving oversight. These methods and practices will be voluntary and collaborative in nature.

POC for Plan Implementation

The POC for the implementation of the plan is the State Interoperable Executive Committee (SIEC).

Name:	Scott Miller
Organization/Title:	State Interoperability Executive Committee (SIEC) Program Manager, Management and Oversight of Strategic Technologies Division, Department of Information Services
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Critical Success Factors for Implementation of the Plan

The critical success factors for implementation of the Washington SCIP are:

- Delivery of the SIEC's previously promised interoperability improvements.
- Receiving a supplemental appropriation for $10 million to complete the Department of Homeland Security (DHS) Region 1 coverage projects in support of the 2010 Olympics Interoperability Projects.
- Adequately vetting and analyzing the various sources of SCIP input received from all stakeholders.
- Recruiting qualified technical personnel to execute the identified projects.
- Outreach efforts to sustain the momentum of the planning efforts build rapport and establish trust among stakeholders.
- Developing on-going interoperability funding.

7. Funding

Committed Funding

State Legislature committed $3 million for interoperability projects in the fiscal year 2007-09 Biennium budget. Other funding sources are being sought to include federal grants, partnerships with multiple agencies, and private enterprise. Requests may be made to the legislature for funding for additional projects. The state must prioritize technologies to be implemented with available funding.

The $19.1 Million dollar Public Safety Interoperable Communications grant will be utilized to build the projects identified in Section 6 Implementation once final approval of the grant investment justifications is received.

The Plan for Developing a Comprehensive Funding Strategy

One of the responsibilities of the SIEC is to seek support, including possible federal or other funding, for state sponsored wireless communications systems. The SIEC also must identify sustainable funding sources for system implementation and recurring costs, such as equipment replacement and operation costs. State agencies and locals jurisdictions will be encouraged through the SIEC Outreach Program to fund interoperability projects from their own resources.

Local and other agencies outside of the SIEC purview pursue other funding options. Through continued collaboration between state and other agencies mutual funding resources will be sought to address joint state/regional interoperability projects.

8. SAFECOM SCIP Criteria

No.	Criteria		Section(s) Addressed in SCIP
	1. Background and Preliminary Steps		
1.	1.1	Provide an overview and background information on the state and its regions. Include geographic and demographic information.	Section 2.1 State Overview
2.	1.2	List all agencies and organizations that participated in developing the plan. (List them according to the categories recommended for a communications interoperability committee in the All-Inclusive Approach section above.)	Appendix D – Points of Contact
3.	1.3	Identify the point of contact. DHS expects that each state will have a full time interoperability coordinator. The coordinator should not represent or be affiliated with any one particular agency and should not have to balance the coordinator duties with other responsibilities.	Section 2.3 Statewide Plan Point of Contact
4.	1.4	Describe the communications and interoperability environment of the current emergency response effort.	Section 4 Current Statewide Assessment and ii
5.	1.5	Include a problem definition and possible solutions that addresses the challenges identified in achieving interoperability within the SAFECOM Interoperability Continuum.	Section 5.1 Interoperability Vision
6.	1.6	Identify any Tactical Interoperability Communications Plans in the state.	Section 2.1.3 UASI Areas/TIC Plans
7.	1.7	Set the scope and timeframe of the plan.	Section 2.4 Scope and Time Frame
	2. Strategy		
8.	2.1	Describe the strategic vision, goals, and objectives for improving emergency response interagency wireless communications statewide, including how they connect with existing plans within the state.	Section 5 Strategy through 5.4
9.	2.2	Provide a strategic plan for coordination with neighboring states. If applicable, include a plan for coordination with neighboring countries.	Section 5.4 Strategic Initiatives
10.	2.3	Provide a strategic plan for addressing data interoperability in addition to voice interoperability.	Section 5.4 Strategic Initiatives

11.	2.4	Describe a strategy for addressing catastrophic loss of communication assets by developing redundancies in the communications interoperability plan.	Section 5.4 Strategic Initiatives
12.	2.5	Describe how the plan is, or will become, compliant with the National Incident Management System (NIMS) and the National Response Plan.	Section 5.5 NIMS Compliance
13.	2.6	Describe a strategy for addressing communications interoperability with the safety and security elements of the major transit systems, intercity bus service providers, ports, and passenger rail operations within the state.	Section 5.4 Strategic Initiatives
14.	2.7	Describe the process for periodic review and revision of the state plan.	Section 5.6 Review and Update Process
	3. Methodology		
15.	3.1	Describe the method by which multi-jurisdictional, multi-disciplinary input was provided from all regions of the state. For an example of a methodology that ensures input from all regions, see the Statewide Communication Interoperability Plan, or SCIP, methodology developed by SAFECOM.	Section 3 Methodology
16.	3.2	Define the process for continuing to have local input and for building local support of the plan.	Section 3 Methodology
17.	3.3	Define how the TICPs were incorporated into the statewide plan.	Section 3 Methodology
18.	3.4	Describe the strategy for implementing all components of the statewide plan.	Section 3 Methodology
	4. Governance		
19.	4.1	Identify the executive or legislative authority for the governing body of the interoperability effort.	Section 4.1 Governance Structure
20.	4.2	Provide an overview of the governance structure that will oversee development and implementation of the plan. Illustrate how it is representative of all of the relevant emergency response disciplines and regions in the state.	Section 4.1 Governance Structure
21.	4.3	Provide the charter for the governing body, and use the charter to state the principles, roles, responsibilities, and processes.	Section 4.1 Governance Structure
22.	4.4	Identify the members of the governing body and any of its committees. (List them according to the categories recommended for a communications interoperability committee in the All-Inclusive Approach section above.)	Section 4.1 Governance Structure Appendix D – Points of Contact

23.	4.5	Provide a meeting schedule for the governing body.	Section 4.1 Governance Structure
24.	4.6	Describe multi-jurisdictional, multi-disciplinary agreements needed for decision-making and for sharing resources.	Section 4.1 Governance Structure
	5. Technology		
25.	5.1	Include a statewide capabilities assessment (or a plan for one) which includes, critical communications equipment and related interoperability issues. At a minimum this should include types of radio systems, data and incident management systems, the manufacturer, and frequency assignments for each major emergency responder organization within the state. Ultimately more detailed information will be required to complete the documentation of a migration strategy. States may use the Communications Asset Survey and Mapping (CASM) tool to conduct this assessment.	Appendix E – Excerpt from the Inventory of Public Safety Communications Systems – Phase 2 Report: Radio Inventory Survey, February 2005 Incident Management is Section 4.2 Technology and Section 5.5 NIMS Compliance **CASM tool use is a SCIP strategy in Section 5.4 Strategic Initiatives**
26.	5.2	Describe plans for continuing support of legacy systems, and developing interfaces among disparate systems, while migrating to newer technologies.	Section 4.2 Technology, Section 5.4 Strategic Initiatives
27.	5.2.1	Describe the migration plan for moving from existing technologies to newly procured technologies.	Section 4.2 Technology, Section 5.4 Strategic Initiatives
28.	5.2.2	Describe the process that will be used to ensure that new purchases comply with the statewide plan, while generally allowing existing equipment to serve out its useful life.	Section 4.2 Technology, Section 5.4 Strategic Initiatives
	6. Standard Operating Procedures (SOPs)		
29.	6.1	Include an assessment of current local, regional, and state operating procedures which support interoperability.	Section 4.3 SOP
30.	6.2	Define the process by which the state, regions, and localities will develop, manage, maintain, upgrade, and communicate standard operating procedures (SOPs), as appropriate.	Section 4.3 SOP
31.	6.3	Identify the agencies included in the development of the SOPs, and the agencies expected to comply with the SOPs.	Section 4.3 SOP
32.	6.4	Demonstrate how the SOPs are NIMS-compliant in terms of the Incident Command System (ICS) and preparedness.	Section 4.3 SOP Section 2.1.1 NIMS/Multi-Agency Coordination Systems and Section 5.5 NIMS

			Compliance
	7. Training and Exercises		
33.	7.1	Define the process by which the state will develop, manage, maintain and upgrade, or coordinate as appropriate, a statewide training and exercises program.	Section 4.4 Training and Exercise Plan
34.	7.2	Describe the process for offering and requiring training and exercises, as well as any certification that will be needed.	Section 4.4 Training and Exercise Plan
35.	7.3	Explain how the process ensures that training is cross-disciplinary.	Section 4.4 Training and Exercise Plan
	8. Usage		
36.	8.1	Describe the plan for ensuring regular usage of the relevant equipment and the SOPs needed to improve interoperability.	Section 4.5 Usage
	9. Funding		
37.	9.1	Identify committed sources of funding, or the process for identifying and securing short- and long-term funding.	Section 7 Funding
38.	9.2	Include a plan for the development of a comprehensive funding strategy. The plan should include a process for identifying ongoing funding sources, anticipated costs, and resources needed for project management and leveraging active projects.	Section 7 Funding
	10. Implementation		
39.	10.1	Describe the prioritized action plan with short and long term goals for achieving the objectives.	Section 6 Implementation
40.	10.2	Describe the performance measures that will allow policy makers to track the progress and success of initiatives.	Section 6 Implementation
41.	10.3	Describe the plan for educating policy makers and practitioners on interoperability goals and initiatives.	Section 6 Implementation
42.	10.4	Describe the roles and opportunities for involvement of all agencies in the implementation of the statewide plan.	Section 6 Implementation
43.	10.5	Establish a plan for identifying, developing, and overseeing operational requirements, SOPs, training, technical solutions, and short and long term funding sources.	Section 6 Implementation
44.	10.6	Identify a POC responsible for implementing the plan.	Section 6 Implementation

45.	10.7	Describe critical success factors for implementation of the plan.	Section 6 Implementation
46.	PSIC #1	Describe how authorized nongovernmental organizations' interoperable communications needs have been included in the planning process and how their needs are being addressed, if applicable.	Section 3 Methodology
47.	PSIC #2	Describe how tribal government entities' interoperable communications needs have been included in the planning process and how their needs are being addressed, if applicable.	Section 3 Methodology
48.	PSIC #3	Describe how this methodology ensured that PSIC grant requests were considered in support of the statewide planning effort.	Section 3 Methodology
49.	PSIC #4	Strategic Technology Reserve (STR): Statewide Plans must describe how a STR will be established and implemented to pre-position or secure interoperable communications in advance for immediate deployment in an emergency or major disaster.	Section 5.4 Strategic Initiatives

9. Close

This Statewide Communications Interoperability Plan (SCIP) represents a significant step toward solving the public safety communications interoperability problems that burden our emergency response community.

The SCIP creates a foundation for success, a process for improvement and a mutually supportive environment in which local and state jurisdictions can work together. By working together we can develop technical solutions necessary for servicing the operational requirements of our public safety personnel and develop the funding sources required to achieve our objectives.

Our next steps are to secure funding to implement our plan and fill the gaps identified through this detailed analysis.

Regional planning bodies working with the State Interoperability Executive Committee (SIEC) give voice and recognition to the needs of our public safety officials. Our key to success is information exchange through an on-going multi-jurisdictional approach.

APPENDIX A REFERENCES

Alternatives Report, May 2005

Focusing on Emergency Communication Systems Interoperability,

http://www.isb.wa.gov/committees/siec/publications/Focusing.pdf

High-Level Final Statewide Public Safety Communications Interoperability Plan, December 2004

Inventory of Public Safety Communications Systems Phase 2 Report, February 2005

Mutual Aid and Inter-local Agreement Handbook

Our Evergreen State Government, State and Local Government in Washington, Richard Yates, 1989.

Recommended Federal Grant Guidance for Emergency Response Communications and Interoperability Grants for Fiscal Year 2007

Regional Plan for the Public Safety 700 MHz Band in Region 43 (Washington) January 2005, http://www.region43.org/docs/700mhz/20050126FinalRegion43_700MHzPlanForFCCTransmittal.pdf

Roberts Rules of Order, 10th Edition

SAFECOM | SCIP Methodology – Executive Summary,

Statewide Communications Interoperability Planning (SCIP) Methodo0logy v2.0, not dated

Statewide Interoperable Public Safety Radio Network – Request for Information, January 2005

System Capabilities and User Needs Report, March 2005.

System Architecture Report, August 2005

Technical Implementation Plan (TIP)

Washington – A History of the Evergreen State, Mary W. Avery, 1965.

Washington Infrastructure Protection Plan (Draft, February 2007

Washington State Statewide Travel Impacts & Visitor Volume, 1991-2005p, Washington Department of Community Trade and Economic Development, December 2005.

Washington State Data Book 2005, Office of Financial Management.

Washington State Enhanced Hazard Mitigation Plan, 2007

Statewide Communications Interoperability Planning (SCIP) Methodology v2.0

Washington Statewide Homeland Security Strategic Plan 2006-2011
Washington State Comprehensive Emergency Management Plan,

APPENDIX B ACRONYM KEY

Acronym	Definition
ARES	Amateur Radio Emergency
AASHTO	American Association of State Highway and Transportation Officials
AHA	American Hospital Association
APCO	Association of Public-Safety Communications Officials-International
CASM	Communication Assets Survey and Mapping
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosive
CEMNET	Comprehensive Emergency Management Network
CHS	Committee on Homeland Security
COML	Communications Unit Leader
CST	National Guard Civil Support Team
CTED	Community, Trade, and Economic Development
DHS	Department of Homeland Security
DIS	Department of Information Services
DM	Disaster Management
DMAT	Disaster Medical Assistance Team
DNR	Department of Natural Resources
DOC	Department of Corrections
DOH	Department of Health
DOJ	Department of Justice
DRS	Department of Retirement Services
DSEG	Domestic Security Executive Group
EA	Enterprise Architecture
EAS	Emergency Alert System
EMC	Emergency Management Council
EMD	Emergency Management Division
EMS	Emergency Medical Services
EOC	Emergency Operations Center
FCC	Federal Communications Commission
FNARS	Federal National Radio System
FRA	Frequency Reconfiguration Agreement
EOP	Emergency Operations Plan

Acronym	Definition
FEMA	Federal Emergency Management Agency
FCCA	Forestry Conservation Communications Association
GHQ	General Headquarters
GOIA	Governor's Office of Indian Affairs
GMAP	Governmental Management and Accountability and Performance
HEAR	Hospital Emergency Administrative Radio
HF	High Frequency
HSPD	Homeland Security Presidential Directive
HSS	Highways of Statewide Significance
IACP	International Association of Chiefs of Police
IAFC	International Association of Fire Chiefs
ICALL	National Calling Channel used for Mutual Aid channel
ICMA	International City/County Management Association
ICS	Incident Command System
ICTAP	Interoperable Communications Technical Assistance Program
IMSA	International Municipal Signal Association
IP	Internet Protocol
ISB	Information Services Board
IT	Information Technology
ITAC	National Working Channels primarily for coordination activity between different agencies in a mutual aid situation, or emergency activities of a single agency.
IWN	Integrated Wireless Network
JIN	Justice Information Network
JINDEX	Justice Information Data Exchange
LERN	Law Enforcement Radio Network
LMR	Land Mobile Radio
MACS	Multi-Agency Coordination System
MDT	Mobile Data Terminal
MED-COM	Medical Communications Network (Formerly known as MEDNET)
MEDNET	Medical Emergency Delivery Network (Now known as MED-COM)
MERS	Mobile Emergency Response System
MHz	Abbreviation for megahertz. 5 MHz = 5,000,000 Hz or 5,000 kHz.
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding

Motorola Solutions, Inc., Ex1019, p. 177

Acronym	Definition
Mutual Aid	Personnel, equipment, or services provided to another jurisdiction
NASNA	National Association of State 9-1-1 Administrators
NASEMSO	National Association of State Emergency Medical Services Officials
NAWAS	National Warning System
NCC	National Coordinating Committee
NEMA	National Emergency Management Association
NENA	National Emergency Number Association
NFOP	National Fraternal Order of Police
NGA	National Governors Association
NGCERFP	National Guard Chemical, Biological, Radiological, Nuclear and conventional High Yield Explosives (CBRNE) Enhanced Response Force Package
NGO	Non-governmental organization
NIMS	National Incident Management System
NLEC	National Law Enforcement Channel
NPSPAC	National Public Safety Planning Advisory Committee
NSA	National Sheriffs' Association
OIC	Office of Interoperability and Compatibility
OPSCAN	Olympic Public Safety Communications Alliance Network
OSCCR	On Scene Command and Control Radio
PCH/CACH	Possible Criminal History and Case and Criminal History
PEP	Prepositioned Equipment Program
PSAP	Public Safety Answering Point
PSIC	Public Safety Interoperable Communications
PSR-IEC	Puget Sound Regional - Interoperability Executive Committee
RACES	Radio Amateur Communications Emergency Services
RCW	Revised Code of Washington
RF	Radio Frequency
RFI	Request for Information
RHSCD	Regional Homeland Security Coordination Districts
RIC	Regional Interoperability Committee
RoIP	Radio over Internet Protocol
RPC	Regional Planning Committee
RTII	Regional Technology Integration Initiative
SAA	State Administrative Agent

Acronym	Definition
SAR	Search and Rescue
SAW Group	SIEC Staff Advisory Work Group
SCIP	Statewide Interoperable Communications Plan
SECTOR	Statewide Electronic Collision & Ticket Online Records
SEOO	State Emergency Operations Officer
SIEC	State Interoperability Executive Committee
SLA	Service Level Agreement
SOP	Standard Operating Procedure
STAEN	State Emergency Network
STARCNET	State Area Command Net
TA	Transition Administrator
TICP or TIC Plan	Tactical Interoperable Communications Plan
TIP	Technical Implementation Plan
TRIS	Tri-County Regional Interoperability System
UASI	Urban Area Security Initiative
UHF	Ultra High Frequency – Range of 300 to 3,000 MHz. For public safety LMR, usually refers to two bands. 380 to 460 MHz (low) and 460 to 512 MHz (high).
USB	Upper Sideband
VoIP	Voice over Internet Protocol
VHF	Very High Frequency – For public safety LMR, usually refers to VHF High Band with a range of 136 to 164 MHz. VHF Low Band has a frequency range below 100 MHz. VHF includes broadcast TV Channels 2-13, the FM broadcast band and some marine, aviation and land mobile services.
WADOC	Washington Department of Corrections
WDFW	Washington Department of Fish and Wildlife
WIJIB	Washington Integrated Justice Information Board
WMD	Weapon of Mass Destruction
WSAFC	Washington State Association of Fire Chiefs
WSDOT	Washington State Department of Transportation
WSP	Washington State Patrol

APPENDIX C GLOSSARY OF TERMS

Links to related Glossaries:

Washington Statewide Homeland Security Strategic Plan 2006 – 2011, http://emd.wa.gov/grants/documents/2006-2011-team-wa-hls-strategic-plan_000.pdf

National Mutual Aid and Resource Management Initiative Glossary of Terms and Definitions (FEMA) http://www.fema.gov/doc/preparedness/glossaryterms.doc.

JCS Pub 1-02 Department of Defense Dictionary of Military and Associated Terms http://www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf

Department of Defense, The Open Systems Joint Task Force, http://www.acq.osd.mil/osjtf/termsdef.html

National Incident Management System (NIMS) Glossary of Key Terms http://www.dhs.gov/interweb/assetlibrary/NIMS-90-web.pdf

911 (9-1-1): Used to describe the 911 telephone systems, Public Safety Answering Points (PSAP) and associated radio and data systems used to receive calls for assistance from the public, catalog and triage information, direct responders to emergency locations and provide support to field responders until event closure or until particular functions are assumed by others under ICS.

Agency: A division of government with a specific function offering a particular kind of assistance. In the Incident Command System, agencies are defined either as jurisdictional (having statutory responsibility for incident management) or as assisting or cooperating (providing resources or other assistance). Governmental organizations are most often in charge of an incident, though in certain circumstances private sector organizations may be included. Additionally, nongovernmental organizations may be included to provide support.

All-Hazards: Describing an incident, natural or manmade, that warrants action to protect life, property, environment, public health or safety, and minimize disruptions of government, social, or economic activities.

Analog: A type of radio signal that uses continuous changes in the amplitude or frequency of a radio transmission to convey information.

Architecture: For the purposes of the SIEC and this SCIP please refer to the definition for **Multiple Subsystems Architecture**.

Backbone: A backbone is a larger transmission line that carries voice and data gathered from smaller lines that interconnect with it.

Backhaul: In wireless network technology, backhaul refers to the capability to transmit voice and data traffic from a radio site to a switch, i.e., from a remote

site to a central site. In satellite technology, backhaul means to transmit data to a point from which it can be up linked to a satellite.

Band: The spectrum between two defined limited frequencies.

Bandwidth: The capacity of a telecom line or channel to carry signals. The necessary bandwidth is the amount of spectrum required to transmit the signal without distortion or loss of information. FCC rules require suppression of the signal outside the band to prevent interference. Common signal capacities used are:

- DS0: A single 64 Kbps channel, the building block of a T1 transmission line.
- T1 (DS1): A digital carrier of 1.544 Mbps. Twenty-four DS0 channels make up one T1 channel.
- OC1 (DS3): A digital carrier of 45 Mbps bandwidth. One OC1 channel can carry 28 DS1 channels.
- OC3: A digital carrier of 135 Mbps bandwidth. One OC3 channel can carry 3 OC1 channels.

Base Station: A fixed station in the land mobile service operating in a manner that communicates directly to field subscriber units.

Best Practice[61]: The term best practice refers to those practices that have produced outstanding results in another situation and that could be adapted for our situation.

Cache: A predetermined complement of tools, equipment, and/or supplies stored in a designated location, available for incident use.

Catastrophic Incident: Any natural or manmade incident, including terrorism, which results in extraordinary levels of mass casualties, damage, or disruption severely affecting the population, infrastructure, environment, economy, national morale, and/or government functions. A catastrophic event could result in sustained national impacts over a prolonged period of time; almost immediately exceeds resources normally available to state, local, tribal, and private sector authorities in the impacted area; and significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened.

Cellular: Mobile/wireless telephone communications is geographically broken into relatively small cells.

Chain of Command: A series of command, control, executive, or management positions in hierarchical order of authority.

[61] http://www.answers.com/topic/best-practice?cat=biz-fin

Channel: A connection between initiating and terminating nodes of a circuit. A single path provided by a transmission medium via an electrical separation, such as by frequency or frequency pairs.

Chief Elected Official: A mayor, city manager, or county manager.

Citizen Corps: Citizen Corps, administered by the Department of Homeland Security, is a community level program that brings government and private sector groups together and coordinates the emergency preparedness and response activities of community members. Through its network of community, state and tribal councils, Citizen Corps increases community preparedness and response capabilities through public education, outreach, training, and volunteer service.

Command: The act of directing, ordering, or controlling by virtue of explicit statutory, regulatory, or delegated authority.

Common Operating Picture: A continuously updated overview of an incident compiled throughout an incident's lifecycle from data shared between integrated systems for communication, information management, and intelligence and information sharing. The common operating picture allows incident managers at all levels to make effective, consistent, and timely decisions. The common operating picture also helps ensure consistency at all levels of incident management across jurisdictions, as well as between various governmental jurisdictions and private-sector and nongovernmental entities that are engaged.

Communications: Process of transmission of information through verbal, written, or symbolic means.

Communications Interoperability[62] (SAFECOM definition): In general, interoperability refers to the ability of emergency responders to work seamlessly with other systems or products without any special effort.

Wireless communications interoperability specifically refers to the ability of emergency response officials to share information via voice and data signals on demand, in real time, when needed, and as authorized.

Communications Interoperability[63]**:** (SIEC's TIP definition) The ability of public safety agencies to talk across agencies and jurisdictions via public safety communications systems, exchanging voice and/or data with one another on demand, in real time, when needed.

Console Patch: A control center subsystem that permits a mobile or portable radio on one channel to communicate with one or more radios on a different channel through the control center console.

Continuity of Government (COG): Activities that address the continuance of constitutional governance. COG planning aims to preserve and/or reconstitute

[62] http://www.safecomprogram.gov/SAFECOM/interoperability/default.htm
[63] http://isb.wa.gov/committees/siec/publications/TIP_v8.0_FINAL_11302005.pdf, pg 118.

the institution of government and ensure that a department or agency's constitutional, legislative, and/or administrative responsibilities are maintained. This is accomplished through succession of leadership, the pre-delegation of emergency authority, and active command and control during response and recovery operations.

Continuity of Operations (COOP) Plans: Procedures to ensure the continued performance of core capabilities and/or critical government operations during any potential incident.

Conventional: Radio system with dedicated, single-purpose analog channels (can be shared between several users with different operational needs; i.e., fire and police), operator must select the specific channel to be used.

Coordinate: To advance systematically an analysis and exchange of information among principals who have or may have a need to know certain information to carry out specific incident management responsibilities.

Coverage: The geographic area included within the range of a wireless radio system.

Critical Infrastructure: Systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.

Cross-band: A repeater that receives in one frequency band and retransmits in a second frequency band (see repeater).

Digital Signal (DS): A classification of digital circuits. The DS technically refers to the rate and format of the signal, while the T (trunk) designation refers to the equipment providing the signals. In practice, "DS" and "T" are used synonymously; for example, DS1 and T1, DS3 and T3.

Digital: Radio transmission method, replacing analog FM systems, that transmits binary 1's and 0's much like a computer. Generally digital signals are more effective than analog signals in fringe areas (better coverage), however once the signal levels are below a certain threshold minimum no communications are possible. As data is normally digital, data transmissions are very compatible with digital radios.

Dispatch: The ordered movement of a resource or resources to an assigned operational mission or an administrative move from one location to another.

Emergency: Any incident, whether natural or manmade, that requires responsive action to protect life or property. Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, an emergency means any occasion or instance for which, in the determination of the President of the United States, federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.

Emergency Manager: The person who has the day-to-day responsibility for emergency management programs and activities. The role is one of coordinating all aspects of a jurisdiction's mitigation, preparedness, response, and recovery capabilities. The local emergency management position is referred to with different titles across the country, such as civil defense coordinator or director, civil preparedness coordinator or director, disaster services director, and emergency services director. It now commonly is referred to as homeland security director.

Emergency Management Assistance Compact (EMAC): A congressionally ratified organization that provides form and structure to interstate mutual aid. Through EMAC, a disaster-affected state can request and receive assistance from other member states quickly and efficiently, resolving two key issues upfront: liability and reimbursement.

Emergency Operations Center (EOC): The physical location at which the coordination of information and resources to support incident management (on-scene operations) activities normally takes place. An EOC may be a temporary facility or may be located in a more central or permanently established facility, perhaps at a higher level of organization within a jurisdiction. EOCs may be organized by major functional disciplines (e.g., fire, law enforcement, and medical services), by jurisdiction such as federal, state, regional, tribal, city, county, or some combination thereof.

Emergency Operations Plan (EOP): The ongoing plan maintained by various jurisdictional levels for responding to a wide variety of potential hazards.

Emergency Responder: Refer to the definition for Emergency Response Personnel/ Emergency Response Management.

Emergency Response Personnel/ Emergency Response Management: Includes federal, state, territorial, tribal, sub-state regional, and local governments, private sector organizations, critical infrastructure owners and operators, nongovernmental organizations, and all other organizations and individuals who assume an emergency management role. Emergency response personnel are also known as emergency responders.

Emergency Response Providers[64]: The term emergency response providers includes federal, state, and local emergency public safety, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel, agencies, and authorities.

Emergency Support Functions: The federal government groups most of its resources and capabilities, and those of certain private sector and non-governmental organizations, under Emergency Support Functions (ESFs). ESFs

[64] The Homeland Security Act of 2002 (6 U.S.C. 101), section 2, http://fl1.findlaw.com/news.findlaw.com/hdocs/docs/terrorism/hsa2002.pdf

align categories of resources and provide strategic objectives for their use. ESFs utilize standardized resource management concepts such as typing, inventorying, and tracking to facilitate the dispatch, deployment, and recovery of resources before, during, and after an incident. The framework identifies primary ESF agencies on the basis of authorities and resources. Support agencies are assigned based on the availability of resources in a given functional area. ESFs provide the greatest possible access to federal department and agency resources regardless of which agency has those resources. See ESF Annexes.

Emergency Support Function Annexes: ESF Annexes detail the missions, policies, structures, and responsibilities of federal agencies for coordinating resource and programmatic support to states, tribes, and other federal agencies or other jurisdictions and entities when activated to provide coordinated federal support during an incident. The introduction to the ESF Annexes summarizes the functions of ESF coordinators and primary and support agencies.

Encryption: Encoding (and decoding) or scrambling of transmissions to provide secure and private communications that can only be unlocked by the intended authorized recipient(s).

Enterprise Architecture: Enterprise Architecture identifies the main components of an organization and how they function together to achieve the business objectives. These components include personnel, business process, technology, financial information, and other resources.

Evacuation: Organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas, and their reception and care in safe areas.

Event: See Planned Event.

Exercise: Opportunities to test capabilities and improve proficiency in a risk free environment. Exercises assess and validate policies, plans, and procedures. They also clarify and familiarize personnel with roles and responsibilities. Well designed exercises improve interagency coordination and communications, highlight capability gaps, and identify opportunities for improvement. Community, state, federal, and tribal jurisdictions should exercise their own response capabilities and evaluate their abilities to perform expected responsibilities and tasks.

Federal Agencies: Includes any agencies under the jurisdiction of the U.S. government.

Federal: Of or pertaining to the federal government of the United States of America.

FEMA Regional Offices: FEMA has 10 regional offices, each headed by a Regional Administrator. The regional field structures are FEMA's permanent presence for communities and states across America. The staff at these offices support development of all-hazards operational plans and generally helps states

and communities achieve a higher level of readiness. These regional offices mobilize FEMA assets and evaluation teams to the site of emergencies or disasters.

First Responder:[65] The term first responder refers to those individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence, and the environment, including emergency response providers as defined in section 2 of the Homeland Security Act of 2002 (6 U.S.C. 101), as well as emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators) that provide immediate support services during prevention, response, and recovery operations.

Frequency Bands: The spectrum of transmission space where public safety land mobile radio systems operate in the United States. They are (from low-high):

Spectrum	Frequency range
High HF	25-29.99 MHz
Low Band or VHF-LO	30-50 MHz
VHF or VHF-HI	136-174 MHz
UHF	450-470 MHz
UHF T-Band	470-512 MHz
700 MHz	764-776 & 794-806 MHz
800 MHz	806-869 MHz
4.9 GHz	4940-4990 MHz

Function: Refers to the five major activities in the Incident Command System: Command, Operations, Planning, Logistics, and Finance/Administration. The term function is also used when describing the activity involved (e.g., the planning function). A sixth function, Intelligence/Investigations, may be established, if required, to meet incident management needs.

Gateway: A device that can transparently interconnect radio audio paths so that agencies can patch into each other's radio channels in real time. This can be done at the baseband level or using Internet Protocol (IP). A gateway provides interconnection between two networks with different communications protocols.

Grants: Funding made available to local agencies from state and federal government agencies, as well as from private sources such as foundations.

High Speed Data: High speed mobile data networks use new technology and spectrum to provide initial data rates above 264 Kbps and also require separate radio modems and infrastructure. Coverage would be comparable to medium speed data networks although at reduced data rates as units move away from the data base station transmitters. Typical applications supported would include

[65] Homeland Security Presidential Directive/HSPD-8, http://www.whitehouse.gov/news/releases/2003/12/20031217-6.html

the sending and receiving of static images, transmitting and receiving field reports, and intranet and Internet access. These higher data rates are expected to be achieved in the 700 MHz band using aggregated wideband channels to support bandwidth intensive applications such as mobile and remote video transmissions. The use of 4.9 GHz spectrum dedicated to public safety is also expected to be utilized to provide office LAN type bandwidth in metropolitan areas as an enhancement to mobile data networks and for use on an "ad hoc" tactical basis. Trials of the 4.9 GHz systems are currently underway in several cities.

Homeland Security Presidential Directive 5 (HSPD-5): Management of Domestic Incidents

Homeland Security Presidential Directive 7 (HSPD-7): Homeland Security Presidential Directive 7, Critical Infrastructure, Identification, Prioritization, and Protection

Homeland Security Presidential Directive 8 (HSPD-8): Homeland Security Presidential Directive 8, National Preparedness

Incident Action Plan (IAP): An oral or written plan containing general objectives reflecting the overall strategy for managing an incident. It may include the identification of operational resources and assignments. It may also include attachments that provide direction and important information for management of the incident during one or more operational periods.

Incident: An occurrence or event, natural or man-made that requires a response to protect life or property. Incidents can, for example, include major disasters, emergencies, terrorist attacks, terrorist threats, civil unrest, wildland and urban fires, floods, hazardous materials spills, nuclear accidents, aircraft accidents, earthquakes, hurricanes, tornadoes, tropical storms, tsunamis, war-related disasters, public health and medical emergencies, and other occurrences requiring an emergency response.

Incident Annexes: Incident Annexes address contingency or hazard situations requiring specialized application of the NRP. The Incident Annexes describe the missions, policies, responsibilities, and coordination processes that govern the interaction of public and private entities engaged in incident management and emergency response operations across a spectrum of potential hazards. These annexes are typically augmented by a variety of supporting plans and operational supplements.

Incident Command: Responsible for overall management of the incident and consists of the Incident Commander, either single or unified command, and any assigned supporting staff.

Incident Command Post: The field location where the primary functions are performed. The ICP may be co-located with the incident base or other incident facilities.

Incident Command System (ICS): A standardized on-scene emergency management construct specifically designed to provide for the adoption of an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is a management system designed to enable effective incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in the management of resources during incidents. It is used for all kinds of emergencies and is applicable to small as well as large and complex incidents. ICS is used by various jurisdictions and functional agencies, both public and private, to organize field-level incident management operations.

Incident Command System (ICS) (RCW definition): Incident command system means: (a) An all-hazards, on-scene functional management system that establishes common standards in organization, terminology, and procedures; provides a means (unified command) for the establishment of a common set of incident objectives and strategies during multi-agency/multi-jurisdiction operations while maintaining individual agency/jurisdiction authority, responsibility, and accountability; and is a component of the national interagency incident management system; or (b) an equivalent and compatible all-hazards, on-scene functional management system.

Incident Commander: The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. The Incident Commander has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident site.

Incident Management Assist Team (IMAT): An interagency national or regional-based team composed of subject matter experts and incident management professionals from multiple federal departments and agencies. IMATs will rapidly deploy to an incident or incident-threatened site provide incident management presence, identify requirements for federal assistance, improve situational awareness, and coordinate integrated response in support of an affected state. IMAT teams will provide a forward federal presence to improve response to serious incidents requiring federal assistance.

Incident Management Team (IMT): An incident command organization made up of the Command and General Staff members and appropriate functional units of an Incident Command System (ICS) organization. The level of training and experience of the IMT members, coupled with the identified formal response requirements and responsibilities of the IMT, are factors in determining the "type," or level, of IMT. IMTs are generally grouped in five types. Types I and II are national teams, Type III are state or regional, Type IV are discipline or large jurisdiction-specific, and Type V are ad hoc incident command organizations typically used by smaller jurisdictions.

Incident Management: The broad spectrum of activities and organizations providing effective and efficient operations, coordination, and support applied at all levels of government, utilizing both governmental and nongovernmental resources to plan for, respond to, and recover from an incident, regardless of cause, size, or complexity.

Incident Objectives: Statements of guidance and direction needed to select appropriate strategy(s) and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow strategic and tactical alternatives.

Indian Tribes: The United States recognizes Indian tribes as domestic dependent nations under its protection and recognizes the right of Indian tribes to self-government. As such, tribes are responsible for coordinating tribal resources to address actual or potential incidents. When their resources are exhausted, tribal leaders seek assistance from states or even the federal government.

Infrastructure: Infrastructure refers to equipment, physical facilities, networks, or other communications components required to move or transmit information between end points.

Initial Actions: The actions taken by those responders first to arrive at an incident site and may include immediate law enforcement, fire and emergency medical services, emergency flood fighting, evacuations, transportation system detours, and providing emergency information to the public.

Initial Response: Resources initially committed to an incident.

Interference: Extraneous energy, from natural or man-made sources, that impedes the reception of desired signals.

Internet Protocol (IP): IP is a data-oriented protocol used by source and destination hosts for communicating data across a packet-switched inter-network.

Interoperability: The ability of emergency management response personnel to interact and work well together. In the context of technology, interoperability is also defined as the emergency communications system that should be the same or linked to the same system that the jurisdiction uses for non-emergency procedures, and should effectively interface with national standards as they are developed. The system should allow the sharing of data with other jurisdictions and levels of government during planning and deployment.

Interoperability Coordinator: An individual or individuals tasked with bringing together issues, solutions, policies, plans, and strategies relative to communications operability. The position focuses on improving interoperability communications at the local, state, and federal levels of government.

Jurisdiction: A range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority. Jurisdictional authority at an incident can be political, geographical, (e.g., federal, state, tribal, and local boundary lines) or functional (e.g., law enforcement, public health).

Jurisdictional Agency: The agency having jurisdiction and responsibility for a specific geographical area, or a mandated function.

Land Mobile: A public or private radio service providing terrestrial two-way communication, service paging and radio signaling.

Local agency: Includes any or all local, city, county, regional entities, and tribal governing bodies.

Local Government: A county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under state law), regional or interstate government entity, or agency or instrumentality of a local government; an Indian tribe or authorized tribal entity, or in Alaska a Native village or Alaska Regional Native Corporation; a rural community, unincorporated town or village, or other public entity. See Section 2 (10), Homeland Security Act of 2002, Public Law 107-296, 116 Stat. 2135 (2002).

Low Speed Data: P25 Phase 1 voice radios and systems include support for low speed data transmission, either piggybacked with voice or in other modes limited to the full single channel rate of 9600 bps. Use of this feature in P25 voice systems does provide a basic low speed data system footprint equivalent to the voice network. This may be useful for low bandwidth applications such as querying license plates and driver's license databases, sending officer dispatches or text messages and transmitting location and status information. However, it is strongly recommended that voice and data service not be aggregated on narrowband channels except on a limited and strictly defined basis.

Major Disaster: Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought) or, regardless of cause, any fire, flood, or explosion in any part of the United States that, in the determination of the President of the United States, causes damage of sufficient severity and magnitude to warrant major disaster assistance under the Stafford Act to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby

Medium Speed Data: Medium speed data networks use conventional, standalone, wideband radios to provide mobile data rates of up to 264 Kbps in accordance with the wideband data standards established by the Telecommunications Industry Association (TIA) in the TIA 902 series of documents. These systems require separate radio modems and infrastructure,

and typically provide wide area coverage and support applications such as transmitting fingerprints, sending and receiving mug shots, sending field reports, limited intranet access, and automatic vehicle location.

Microwave: Communications systems that use frequencies from about 1 gigahertz upward for point-to-point and point-to-multipoint communications, including common carriers, cable TV operators, broadcasters, and private operational fixed users. In this context, it is the technology that is used to connect the radio transmission sites together.

Mobile Emergency Response Support (MERS): The primary function of MERS is to provide mobile telecommunications capabilities and life, logistics, operational and power generation support required for the on-site management of disaster response activities. MERS support falls into three broad categories: (1) operational support elements; (2) communications equipment and operators; and (3) logistics support.

Multi-agency Coordination (MAC) Group: Typically, administrators/executives, or their appointed representatives, who are authorized to commit agency resources and funds, are brought together and form MAC Groups. MAC Groups may also be known as multi-agency committees, emergency management committees, or as otherwise defined by the system. It can provide coordinated decision making and resource allocation among cooperating agencies, and may establish the priorities among incidents, harmonize agency policies, and provide strategic guidance and direction to support incident management activities.

Multi-agency Coordination System(s) (MACS): Multi-agency coordination systems provide the architecture to support coordination for incident prioritization, critical resource allocation, communications systems integration, and information coordination. The elements of multi-agency coordination systems include facilities, equipment, personnel, procedures, and communications. Two of the most commonly used elements are emergency operations centers and MAC Groups. These systems assist agencies and organizations responding to an incident.

Multi-jurisdictional Incident: An incident requiring action from multiple agencies that each have jurisdiction to manage certain aspects of an incident. In the Incident Command System, these incidents will be managed under Unified Command.

Multiple Subsystems Approach[66]: The SIEC's approach to creating a statewide interoperable network of disparate radio sites, transport mechanisms, interfaces and audio switches connected together through one or more centralized control centers.

[66] TIP, http://isb.wa.gov/committees/siec/publications/TIP_v8.0_FINAL_11302005.pdf, Pg 20

Multiple Subsystems Architecture[67]: The multiple subsystems architecture is an integrated "system of subsystems" standards-based design incorporating both analog and digital radio system capabilities. While there is common functionality that is provided by the technology platform, each agency's radio system is designed based on the functional requirements of its users.

Mutual Aid: Generally describes a situation where a major emergency or incident requires a large number of agencies, including agencies from remote locations, working together to mitigate the crisis.

Mutual Aid and Assistance Agreement: Written or oral agreement between and among agencies, organizations, and/or jurisdictions that provides a mechanism to quickly obtain emergency assistance in the form of personnel, equipment, materials, and other associated services. The primary objective is to facilitate rapid, short-term deployment of emergency support prior to, during, and/or after an incident.

Mutual Aid Channel: A radio channel specifically allocated for use during emergency mutual aid situations.

Narrowband: In LMR systems, the FCC has mandated reducing channel bandwidths from 25 kHz to 12.5 kHz by 2013, thereby potentially doubling the number of available channels. Narrowband operations will be mandatory by January 1, 2013, when all public safety users must cease operation of wideband equipment.

National Exercise Program: Program coordinated by DHS that meets the federal requirement that departments and agencies evaluate and improve their capabilities to perform in a crisis or emergency across the 15 incident and planning scenarios contained in the National Preparedness Guidelines. The National Exercise Program contains a Corrective Action Program System, a web-based tool that enables federal, state and local emergency response and homeland security officials to implement the corrective action program process.

National Incident Management System (NIMS): Provides a systematic, proactive approach guiding government agencies at all levels, the private sector, and nongovernmental organizations to work seamlessly to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life or property and harm to the environment. NIMS codified emergency management discipline in six areas, including incident command and management structures, core preparedness activities, resource management, communications, supporting technologies, and the maintenance for these systems over time.

National Response Framework (NRF): A guide to how the Nation conducts all-hazards incident management. It is built upon flexible, scalable, and adaptable coordinating structures to align key roles and responsibilities across the Nation. It

[67] TIP, http://isb.wa.gov/committees/siec/publications/TIP_v8.0_FINAL_11302005.pdf, Pg 30

is intended to capture specific authorities and best practices for managing incidents that range from the serious but purely local, to large-scale terrorist attacks or catastrophic natural disasters.

National Urban Search and Rescue (SAR) Response System: A system composed of the primary agencies that provide specialized SAR operations during incidents or potential incidents requiring a coordinated federal response. The system is built around a core of task forces prepared to deploy immediately and initiate operations in support of ESF #9 – Search and Rescue. These task forces are staffed primarily by local fire department and emergency services personnel who are highly trained and experienced in collapsed structure SAR operations and possess specialized expertise and equipment.

National: Of a nationwide character, including the federal, state, tribal, and local aspects of governance and policy.

Network: A network can refer to any interconnected group or system.

Nongovernmental Organization (NGO): An entity with an association that is based on interests of its members, individuals, or institutions. It is not created by a government, but it may work cooperatively with government. Such organizations serve a public purpose, not a private benefit. Examples of NGOs include faith-based charity organizations and the American Red Cross. NGOs, including voluntary and faith-based groups, provide relief services to sustain life, reduce physical and emotional distress, and promote the recovery of disaster victims. Oftentimes these groups provide specialized services that help individuals with disabilities. NGOs and voluntary organizations play a major role in assisting emergency managers before, during, and after an emergency

Olympic Public Safety Communications Alliance Network (OPSCAN): OPSCAN is a consortium of 42 public safety agencies working together to address the communications interoperability needs of the Olympic Peninsula jurisdictions. The network consists of a microwave backbone that extends around the peninsula, RoIP interoperability gateways and solutions as well as the policies, procedures, and training programs necessary to ensure proper functionality, operations and governance.

On Demand: Immediately available when mission requires and must be available under any circumstances.

Open Architecture[68]: An architecture that employs open standards for key interfaces within a system.

Open Standards[69]: Standards that are widely used, consensus based, published and maintained by recognized industry standards organizations.

Open System[70]: A system that employs modular design, uses widely supported and consensus based standards for its key interfaces, and has been subjected to

[68] http://www.acq.osd.mil/osjtf/termsdef.html
[69] http://www.acq.osd.mil/osjtf/termsdef.html

successful validation and verification tests to ensure the openness of its key interfaces.

Optical Carrier (OC): OC is the transmission speeds defined for use in a synchronous Optical Network (SONET) or the international standard Synchronous Digital Hierarchy (SDH) network.

Preparedness: A continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and improving in an effort to ensure effective coordination during incident response.

Private Sector: Organizations and entities that are not part of any governmental structure. The private sector includes for-profit and not-for-profit organizations, formal and informal structures, commerce, and industry.

Proprietary Standard[71]: A standard that is exclusively owned by an individual or organization, the use of which generally would require a license and/or fee.

Public Safety: Public Safety involves the protection of the general population from all manner of significant danger, injury, damage or harm, such as may occur in a natural disaster, and the prevention of the same. This protection is typically provided by emergency service organizations such as police, fire and EMS.

Public Safety Access Points (PSAP): PSAP is also an acronym for Public Safety Answering Point, an agency in the United States, typically county or city controlled, responsible for answering 9-1-1 calls for emergency assistance from police, fire, and ambulance services. Also see the definition for 911.

Public Safety Services: For the purposes of the SIEC, public safety agencies provide services that protect and preserve life, health, property, and natural resources. Public safety agencies can include state, federal, local, or other government entities or non-governmental organizations that are authorized by a government entity to provide such services.

Radio Communications Equipment: Telecommunications equipment refers to one or more radio transmitters and/or receivers and/or parts for use in a fixed, mobile or portable application. It can be operated with ancillary equipment but if so, is not dependent on it for basic functionality.

Radio over IP (RoIP): For the purposes of the SIEC's Technical Implementation Plan (TIP), RoIP refers to the use of IP networks as the backbone to carry the base band audio voice traffic (VoIP) between radio base stations and console equipment. Today, IP networks can carry both voice and data for public safety. Please refer to the definition of VoIP.

Real Time: When there is no noticeable delay between the time information is sent and when it is received.

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[70] http://www.acq.osd.mil/osjtf/termsdef.html
[71] http://www.acq.osd.mil/osjtf/termsdef.html

Receiver: The component(s) of a radio device that converts the radio waves into audible signals.

Region: The term "region" as used in this SCIP is the definition established in the Washington Statewide Homeland Security Strategic Plan 2006-2011[72] for the Regional Homeland Security Coordination Districts (RHSCD). This organizational construct was selected for use in the SCIP to facilitate efficient and rapid information exchange with all 39 counties and all cities, as well as all the tribes within the state. These bodies meet locally on a regular basis discuss coordination, planning, training, and exercise issues. The regional coordinators meet monthly with the state Homeland Security Coordinator to address issue of statewide concern such as training and exercises, grant applications, state preparedness reporting, and administrative matters.

However, the SIEC recognizes that each jurisdiction must determine what constitutes a logical organizational structure for interoperable communications planning and operations. This definition does not restrict jurisdictions from organizing Regional Interoperability Committees (RIC) based upon local needs.

Regional Interoperability Committee (RIC): For the purposes of the SIEC, RICs are self defined regional technical bodies organized to foster coordination and collaboration within logical mutually supporting areas of the state. The overarching purpose of the RICs is to work with the State Interoperability Executive Committee (SIEC) to improve interoperable communications. These bodies meet locally to discuss coordination, collaboration, partnerships, planning, training and exercises, grant applications, and administrative matters that improve the operability and interoperability of regional communications systems.

Repeater: Special receiver/transmitter combination that receives a signal on one frequency and retransmits a new signal on another frequency, usually within the same frequency band, sometimes referred to as a relay station.

Response: Activities that address the short-term, direct effects of an incident. Response includes immediate actions to save lives, protect property, and meet basic human needs. Response also includes the execution of emergency operations plans and of mitigation activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes. As indicated by the situation, response activities include applying intelligence and other information to lessen the effects or consequences of an incident; increased security operations; continuing investigations into nature and source of the threat; ongoing public health and agricultural surveillance and testing processes; immunizations, isolation, or quarantine; and specific law enforcement operations aimed at preempting, interdicting, or disrupting illegal activity, and apprehending actual perpetrators and bringing them to justice.

Roaming: Use of a wireless phone or public safety mobile communications (PSMC) equipment outside of the home service area defined by a service

[72] http://www.emd.wa.gov/grants/documents/2006-2011-team-wa-hls-strategic-plan_000.pdf

provider or system. Allows a user to travel statewide and communicate as if they were still in within their local area.

SAFECOM: SAFECOM is managed by the Department of Homeland Security (DHS) Science and Technology (S&T) Directorate's Office for Interoperability and Compatibility (OIC). Its mission is to serve as the umbrella program within the federal government to help local, state, tribal, and federal public safety agencies improve public safety response through more effective and efficient interoperable wireless communications; allowing public safety agencies to talk across disciplines and jurisdictions via radio communications systems, exchanging voice and/or data with one another on demand, in real time, when needed, and as authorized.

SAFECOM Interoperability Continuum: Is a tool to help the emergency response community and policy makers measure, analyze, and address critical elements required for success as they plan and implement their short and long-term interoperability efforts. The Continuum depicts the core facets of interoperability according to the stated needs and challenges of the emergency response community. The *elements* of interoperability defined in the Continuum include governance, standard operating procedures (SOPs), technology, training and exercises, and usage.

Satellite: Radio relay station (repeater) that orbits the earth. A complete satellite communications system also includes earth stations (and portables/mobiles) that communicate with each other via the satellite. The satellite receives a signal transmitted by an originating earth station and retransmits that signal to the destination earth station(s)/receiver(s). Satellites are used to transmit telephone, television, and data signals originated by common carriers, broadcasters, distributors of cable TV program material, and for PSMC use into areas of coverage dead spots.

Short-Term Recovery: A process of recovery that is immediate and overlaps with response. It includes such actions as providing essential public health and safety services, restoring interrupted utility and other essential services, reestablishing transportation routes, and providing food and shelter for those displaced by a disaster. Although called short term, some of these activities may last for weeks.

Situation Report: Document that contains confirmed or verified information and explicit details (who, what, where, and how) relating to an incident.

Situational Awareness: Situational Awareness is the ability to identify, process, and comprehend the critical elements of information about what is happening to the responders with regards to the mission. More simply, it’s knowing what is going on around you. Situational awareness requires continuous monitoring of relevant sources of information regarding actual incidents and developing hazards.

Spectrum: The range of electromagnetic radio frequencies used in the transmission of sound, data, and television.

Stafford Act: The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended. The Stafford Act provides an orderly and continuing means of assistance by the federal government to state and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from disaster. The President of the United States, in response to a state Governor's request, may declare an "emergency" or "major disaster" in order to provide federal assistance under the act. The President of the United States, in Executive Order 12148, delegated all functions, except those in Sections 301, 401, and 409, to the FEMA Administrator. The act provides for the appointment of a Federal Coordinating Officer who will operate in the designated area with a State Coordinating Officer for the purpose of coordinating state and local disaster assistance efforts with those of the federal government. (44 CFR 206.2)

Staging Area: Established for the temporary location of available resources. A staging area can be any location in which personnel, supplies, and equipment can be temporarily housed or parked while awaiting operational assignment.

Stakeholder: A stakeholder, as defined in this in this SCIP, is any person, organization, entity jurisdiction or government, private or public, with an interest in or is affected by public safety actions or activities. This includes, but is not limited to, the public at large, first responders, emergency response personnel, city, county, tribal, state, and federal elected officials as well as non-governmental organizations.

Standard Operating Procedure (SOP): Complete reference document or an operations manual that provides the purpose, authorities, duration, and details for the preferred method of performing a single function or a number of interrelated functions in a uniform manner.

State: When capitalized, refers to any state of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any possession of the United States. See Section 2 (14), Homeland Security Act of 2002, Public Law 107-296, 116 Stat. 2135 (2002).

Subscriber Unit: Equipment associated with a person or vehicle in the field. All mobile and portable equipment, including but not limited to portable radios, mobile radios, mobile data computers (laptops, terminals, etc.), pagers, cellular and satellite phones, and hand held data equipment such as personal digital assistants (PDAs).

System: An integrated combination of people, property, environment, and processes that work in a coordinated manner to achieve a specific desired output under specific conditions.

Tactics: Deploying and directing resources on an incident to accomplish the objectives designated by the strategy.

Talk Group: Term ususally used with trunked radio systems. A talkgroup is a predefined list of radios/users assigned a unique identification which allows them to communicate with each other over the trunked radio system

Technical Assistance: Support provided to state, tribal, and local jurisdictions when they have the resources but lack the complete knowledge and skills needed to perform a required activity (such as mobile-home park design or hazardous material assessments).

Terrorism: Under the Homeland Security Act of 2002, terrorism is defined as activity that involves an act dangerous to human life or potentially destructive of critical infrastructure or key resources; is a violation of the criminal laws of the United States or of any state or other subdivision of the United States in which it occurs; and is intended to intimidate or coerce the civilian population, or influence or affect the conduct of a government by mass destruction, assassination, or kidnapping. See Section 2 (15), Homeland Security Act of 2002, Public Law 107-296, 116 Stat. 2135 (2002).

Threat: An indication of possible violence, harm, or danger.

TIA Project 25 (P25): P25 is a digital radio interoperability standard adopted by federal government agencies, many law enforcement/public safety agencies, and all users of the 700 MHz band. The Phase I over the air standard has been in place since October 1995 but other parts of the standard are still not yet complete. Phase II will extend Phase I standards into 6.25 kHz channels and Time Division Multiple Access (TDMA) transmission. The goals of Project 25 include: interoperability (greater safety and productivity with enhanced mutual aid), choices (suppliers), longevity (of technology/equipment), flexibility (to expand as resources and needs require), and economy (towards competitive sources).

Tools: Those instruments and capabilities that allow for the professional performance of tasks, such as information systems, agreements, doctrine, capabilities, and legislative authorities.

Tribal: Referring to any Indian tribe, band, nation, or other organized group or community, including any Alaskan Native Village as defined in or established pursuant to the Alaskan Native Claims Settlement Act (85 Stat. 688) [43 U.S.C.A. and 1601 et seq.], that is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

Tribal Chief Executive Officer: The tribal chief executive officer is responsible for the public safety and welfare of the people of that tribe.

Trunking: Radio system with a group of channels available and assigned as needed to specific groups or users. All channels are automatically system

assigned while in-use, then released for other users. Maximizes traffic in a minimum number of channels. FCC preferred method of operation (especially for new systems).

United States: The term "United States," when used in a geographic sense, means any state of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, any possession of the United States, and any waters within the jurisdiction of the United States. (As defined in section 2(16) of the Homeland Security Act of 2002, Public Law 107-296, 116 Stat. 2135, et seq. (2002).

Urban Area Security Initiative (UASI): The Urban Areas Security Program created a sustainable national model program to enhance security and overall preparedness to prevent, respond to, and recover from acts of terrorism. The Seattle UASI consists of Snohomish, King and Pierce Counties, and Clark County, Washington participates in the Portland/ Vancouver UASI.

Urban Search and Rescue (US&R) Task Forces: The National US&R Response System is a framework for structuring local emergency services personnel into integrated disaster response task forces. The 28 National US&R Task Forces, complete with the necessary tools, equipment, skills, and techniques can be deployed by FEMA to assist state and local governments in rescuing victims of structural collapse incidents or to assist in other search and rescue missions. Each Task Force must have all its personnel and equipment at the embarkation point within six hours of activation. The Task Force can be dispatched and en route to its destination in a matter of hours.

Variable density Radio Sites[73]: The proposed system architecture consists of a mixture of low, medium, and high density radio sites for voice and data. Each radio site would consist of multiple radio channels operating in either an analog or digital mode or a trunked or conventional manner with typical equipment configurations as displayed in the chart below.

Table 25 Equipment Configurations

Equipment / bandwidth	Site density and equipment quantities		
	Low	**Medium**	**High**
VHF P25 trunked repeater stations	-	3	3-10
800 MHz P25 trunked repeater stations	-	3	3-10
VHF P25 conventional repeater station	1	-	-
800 MHz P25 conventional repeater station	1	-	-
VHF wideband analog mutual aid base stations	1	1	2
UHF wideband analog mutual aid base station	-	1	1

[73] TIP, http://isb.wa.gov/committees/siec/publications/TIP_v8.0_FINAL_11302005.pdf, Pg 123

Equipment / bandwidth	Site density and equipment quantities		
800 MHz NPSPAC analog mutual aid repeater stations	1	1	2
Low band analog mutual aid base station	-	-	1
700 MHz wideband mobile data base stations	-	1	2
RoIP interfaces supporting connections		1-4	1-8
DS0s of transport bandwidth	2-4	5-9	10-17

Voice over Internet Protocol (VoIP): VoIP is a standards-based technology that enables voice and audio signals to be transported over an internet protocol (IP) network. VoIP is capable of carrying both radio and traditional telephony calls. The audio is encoded using standard signal processing standards such as International Telecommunication Union (ITU) G.711 or ITU G.729, and is encapsulated in a standard transport protocol such as Real-Time Transport Protocol (RTP) or Secure RTP (SRTP).

Volunteer: Any individual accepted to perform services by the lead agency (which has authority to accept volunteer services) when the individual performs services without promise, expectation, or receipt of compensation for services performed. See 16 U.S.C. 742f(c) and 29 CFR 553.101.

Wideband: In land mobile radio systems, most channels are of 25 kHz bandwidth for voice communications.

Wireless Communications Interoperability: The ability of emergency response officials to share information via voice and data signals on demand, in real time, when needed, and as authorized.

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Mike Ryan	Emergency Management Coordinator	King County / Zone One	425-985-4619	mrya@bellevue.wa.gov
Arel Solie	Homeland Security Emergency Manager	Washington State Patrol	360-704-2962	arel.solie@wsp.wa.gov
Pete Suver	ALS Coordinator	Thurston County Medic One	360-704-2780	suverp@co.thurston.wa.us
Deb Welsh	Assistant Director	Skagit 911	360-428-3206	debw@co.skagit.wa.us
Joette Wentworth	Grant Accounting Specialist	Spokane P.D.	509-625-4072	jwentworth@spokanepolice.org

Marina Zuetell	Consultant	MHz Consulting Services / WA St Dept of Health	206-524-6567	zuetell@comcast.net
Jose Zuniga	Mobile Technology Supervisor	Department of Corrections	360-725-8125	jrzuniga@doc1.wa.gov

Motorola Solutions, Inc., Ex1019, p. 210

APPENDIX E EXCERPT

Excerpt from the Inventory of Public Safety Communications Systems – Phase 2 Report: Radio Inventory Survey, February 2005

This Appendix reprints Section 2.2: Radio inventory survey and Section 2.3 Technical – infrastructure of the Inventory of Public Safety Communications Systems – Phase 2 Report, February 2005.

This capabilities assessment was a prepared during the SIEC's Technical Implementation Plan (TIP) project. This project called for the development of a Web-based survey to collect radio communications asset data from public safety agencies at the state and local level, as well as from tribal nations, designated federal agencies, and nongovernmental organizations.

This report provides an essential overview of today's public safety radio systems in the state of Washington. It lists the actual hardware, frequency bands, infrastructure in use and by the state agencies and by Homeland Security Region.

Technical – Radio Equipment

Overview

State public safety agencies were asked a series of questions to determine the types of technology and quantities of radios they were using.

In some cases, the reporting of information was done by a centralized group, which provides radio equipment and/or dispatch services for several nearby communities. This was most often done where the 9-1-1 center provides dispatching for several adjoining agencies and they were in the best position to provide accurate information on the radio equipment and infrastructure.

For continuity, this study used the same definitions as the previous inventory reports, collecting information on portable radios, mobile radios and base stations/repeaters.

Radio (portable, mobile, and base station) equipment in this section is the quantities actually reported in the survey. The SIEC estimates that the quantities shown in the following tables and charts for the regions represent 83 percent of the total radio equipment for local and county agencies and tribal nations.

Portable Radio Equipment

Tables 26 and 27 below shows the number of portable radios reported in the survey by local agencies and tribal nations, grouped by Homeland Security region.

Table 26 Portable Radios Reported by Homeland Security Regions

Portables	Homeland Security region									
	1	2	3	4	5	6	7	8	9	TOTAL
25-50 MHz	0	8	11	0	0	19	2	0	0	40
138-174 MHz	965	1055	935	729	1914	396	1081	578	1347	8999
220-222 MHz	0	0	0	0	0	0	0	0	0	0
406-470 MHz	389	215	65	105	875	104	14	0	16	1783
794-869 MHz	699	0	0	1668	860	8904	0	846	29	13006
P25 digital	71	42	15	103	976	94	39	95	47	1482
P25 capable/compatible	88	36	96	79	7	94	95	334	67	895
Digital, not P25	251	24	65	0	0	0	44	51	0	435
Narrowband - not P25	351	641	210	171	2000	0	281	32	923	4607
Analog only	1317	1265	785	1880	2505	9328	947	993	1144	20163
Trunked	635	4	81	1692	3	8904	0	771	0	12090
Conventional	1076	1305	777	679	2530	518	1048	910	1034	9877

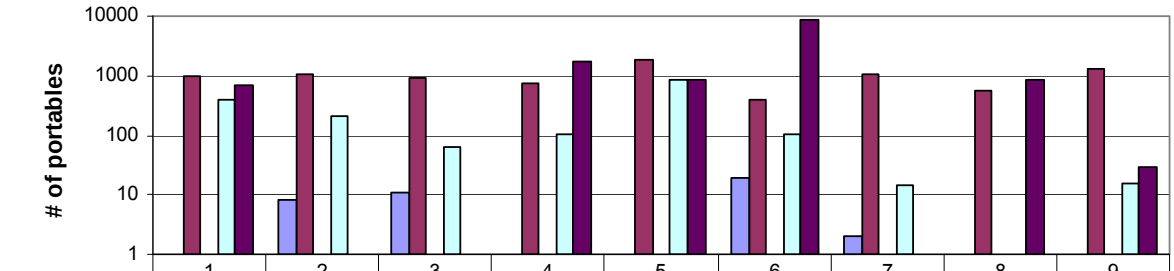
Table below shows the number of portable radios reported in the survey by state agencies. Agency abbreviations are as follows, for Table 27and other tables throughout this report:

- EMD - Emergency Management Division
- DFW - Department of Fish and Wildlife
- WSP - Washington State Patrol
- DOC - Department of Corrections
- DNR - Department of Natural Resources
- DOT - Department of Transportation
- DOH - Department of Health

Table 27 Portable Radios Reported by State Agencies

Portables	State agency							
	EMD	DFW	WSP	DOC	DNR	DOT	DOH	TOTAL
25-50 MHz	25	0	0	0	0	0	0	25
138-174 MHz	20	300	1790	0	1219	0	0	3329
220-222 MHz	0	0	0	0	0	0	0	0
406-470 MHz	0	0	0	0	0	0	0	0
794-869 MHz	11	0	0	3590	0	450	6	4057
P25 digital	1	0	132	0	0	22	0	155
P25 capable/compatible	0	175	0	4	1219	0	0	1398
Digital, not P25	1	0	0	0	0	0	0	1
Narrowband - not P25	2	78	100	3590	0	0	0	3769
Analog only	55	125	1390	2908	1195	428	6	6106
Trunked	4	0	0	610	0	428	6	1048
Conventional	52	300	1790	2908	1219	23	6	6297

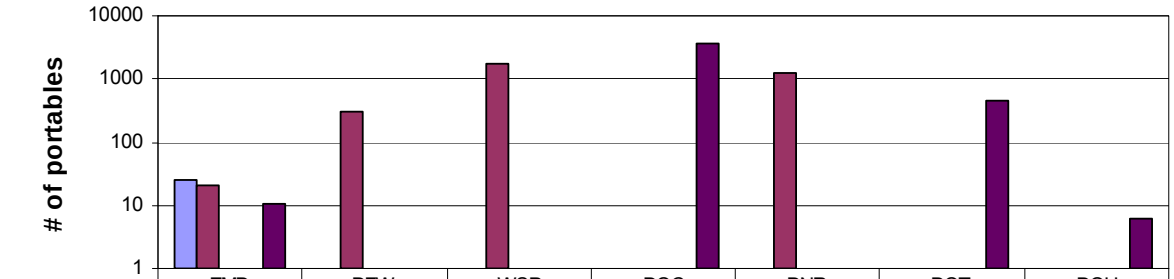
Portables by Frequency Band



	1	2	3	4	5	6	7	8	9
25-50 MHz	0	8	11	0	0	19	2	0	0
138-174 MHz	965	1055	935	729	1914	396	1081	578	1347
220-222 MHz	0	0	0	0	0	0	0	0	0
406-470 MHz	389	215	65	105	875	104	14	0	16
794-869 MHz	699	0	0	1668	860	8904	0	846	29

Homeland Security region

Figure 14 Portables by frequency band reported by Homeland Security regions



	EMD	DFW	WSP	DOC	DNR	DOT	DOH
25-50 MHz	25	0	0	0	0	0	0
138-174 MHz	20	300	1790	0	1219	0	0
220-222 MHz	0	0	0	0	0	0	0
406-470 MHz	0	0	0	0	0	0	0
794-869 MHz	11	0	0	3590	0	450	6

State agency

Figure 15 Portables by frequency band reported by state agencies

Portable Attributes

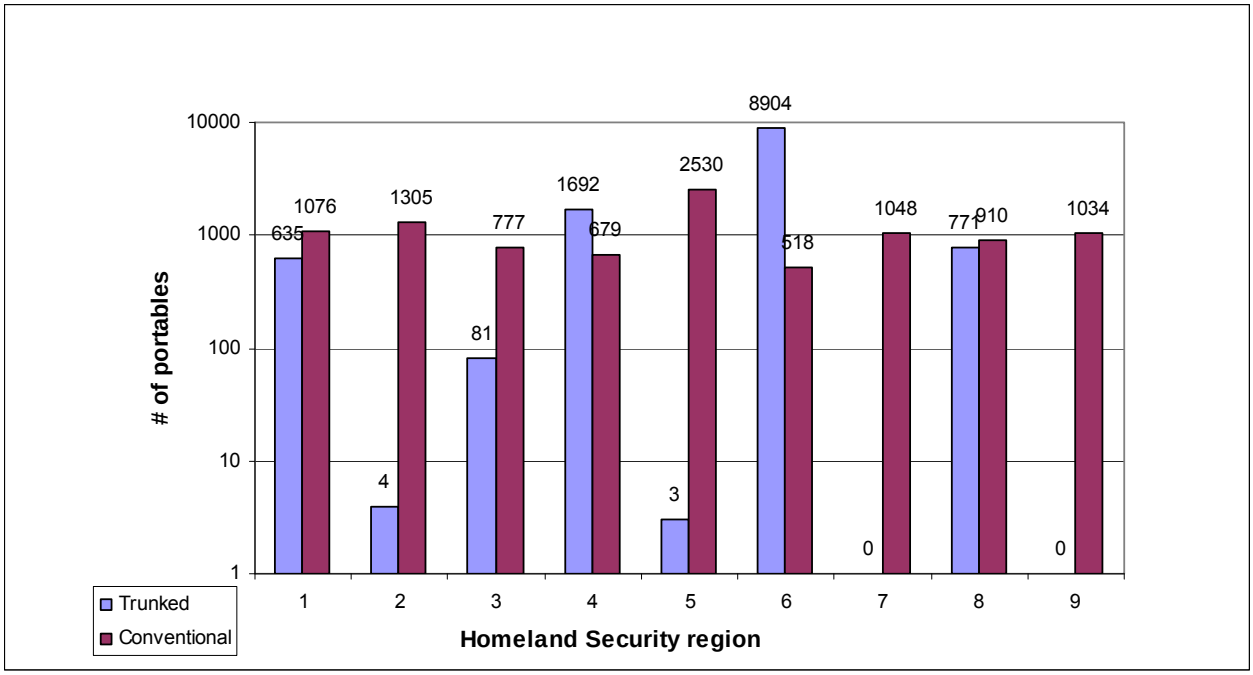


Figure 16 Conventional/trunked portables reported by Homeland Security regions

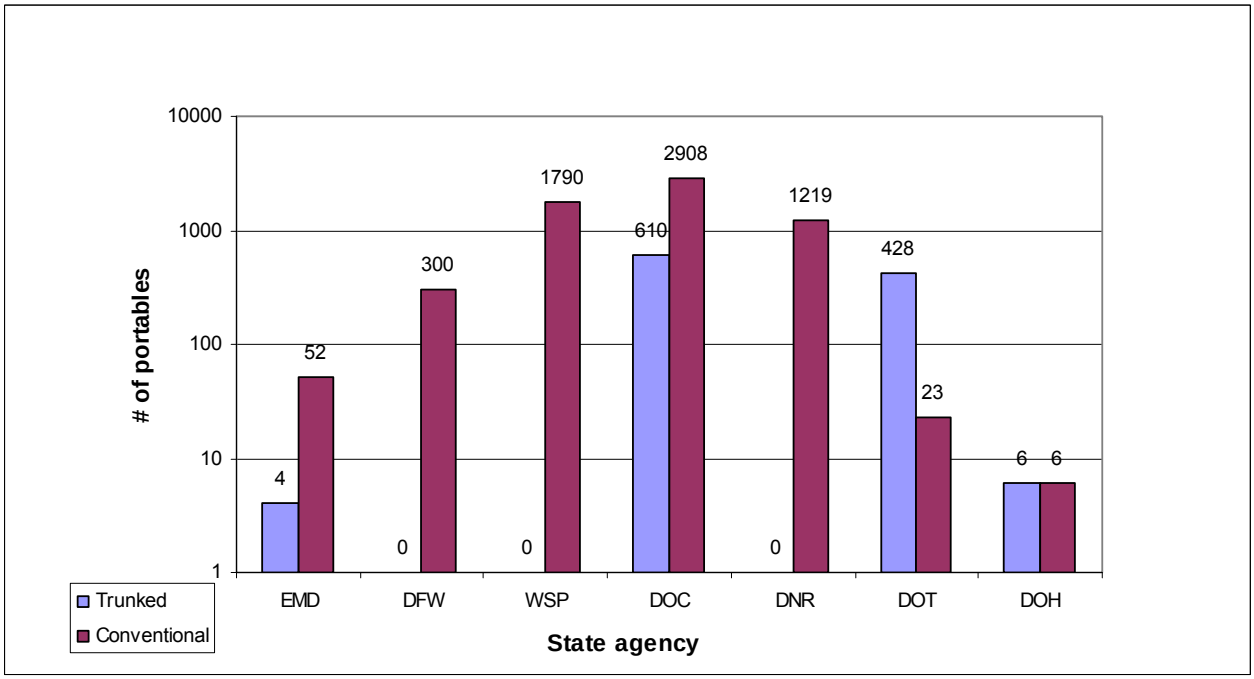


Figure 17 Conventional/trunked portables reported by state agencies

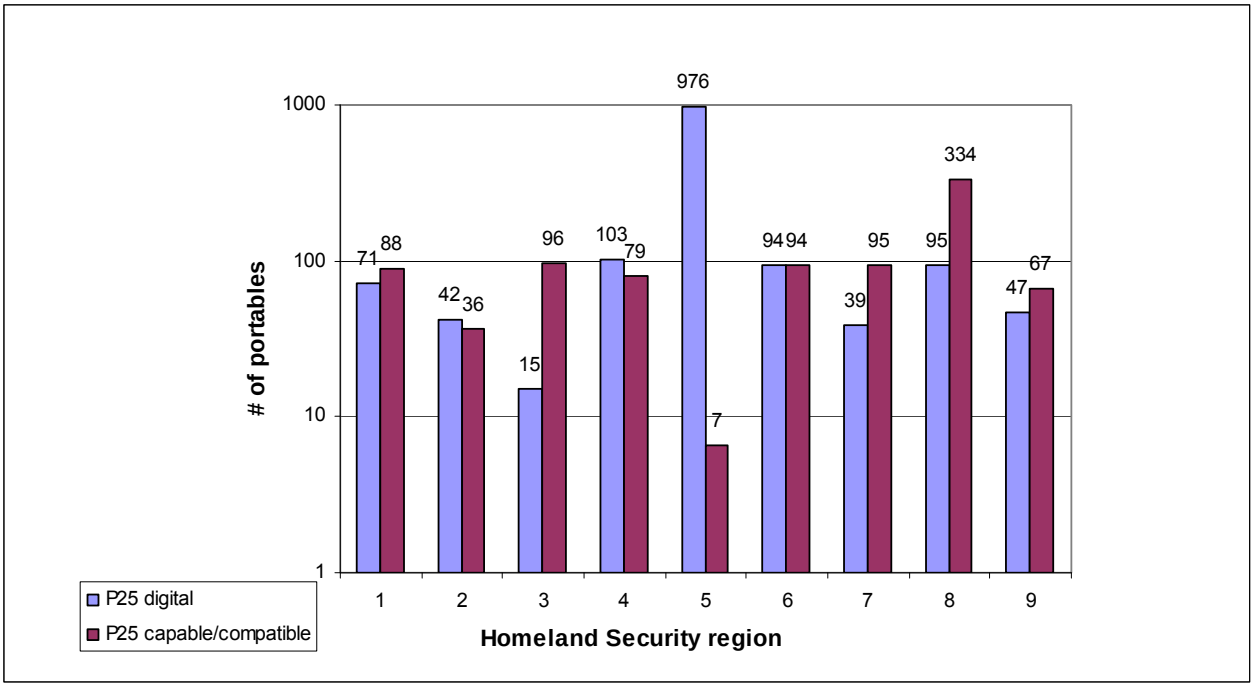


Figure 18 protocol portables reported by Homeland Security regions

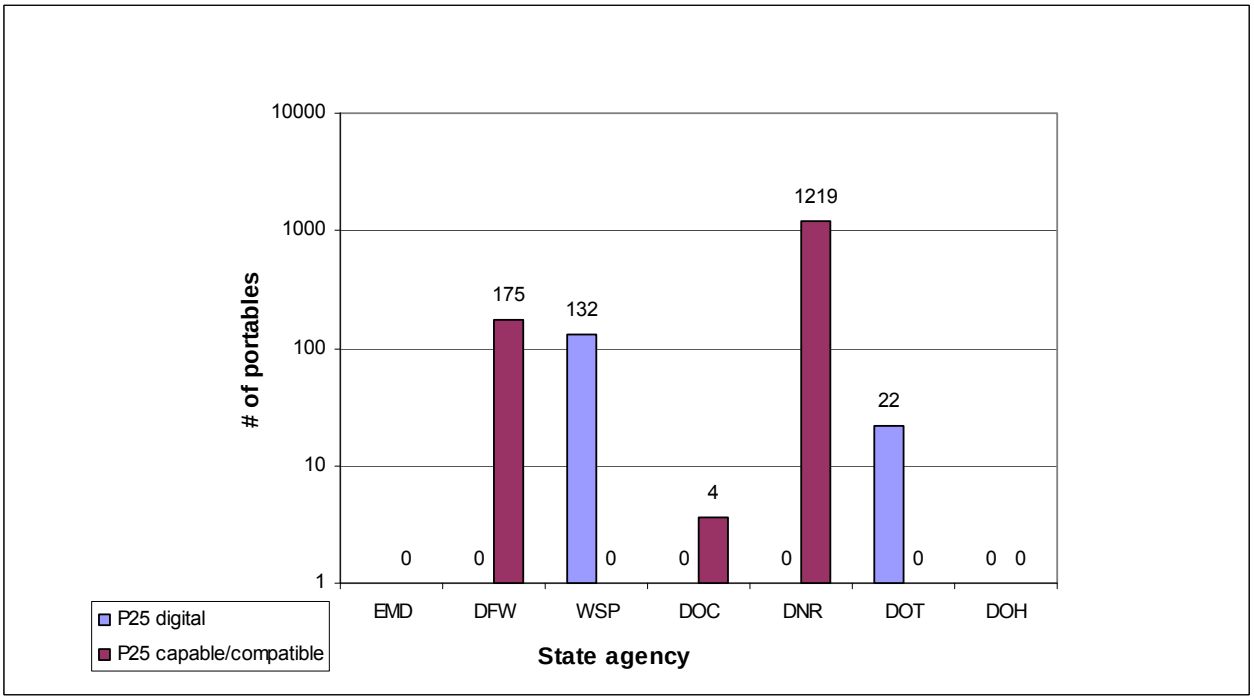


Figure 19 P25 protocol portables reported by state agencies

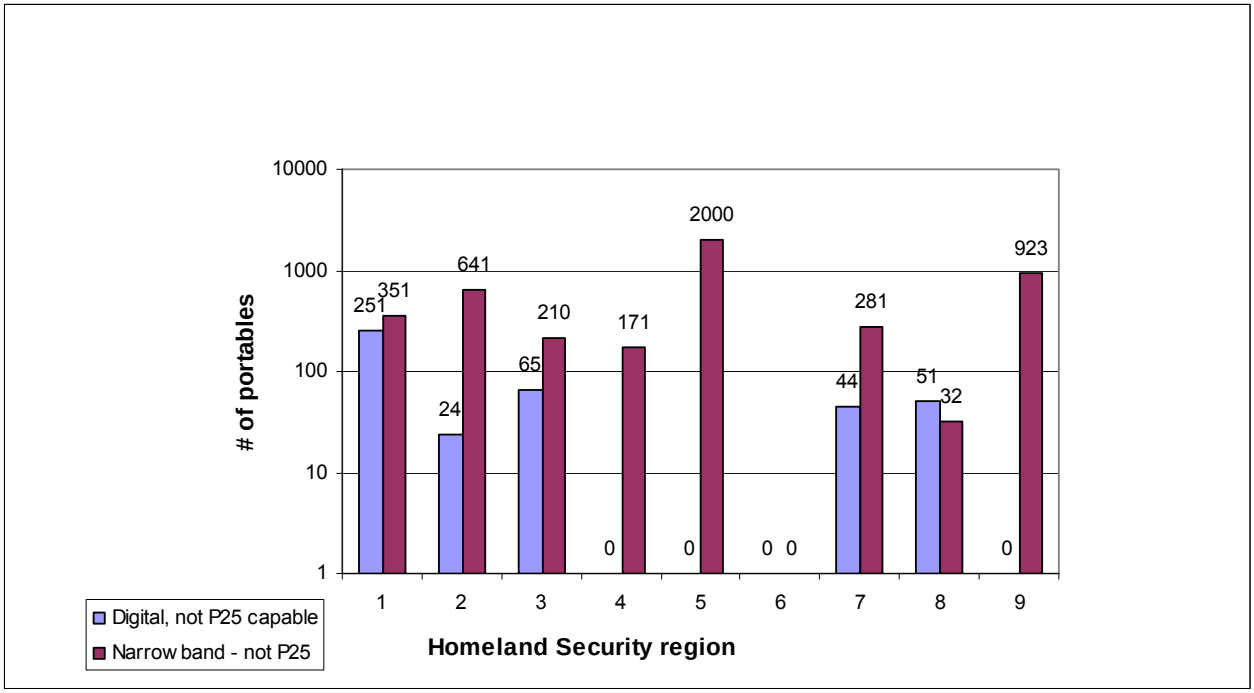


Figure 20 Portables, digital and/or narrowband - not P25 capable reported by Homeland Security regions

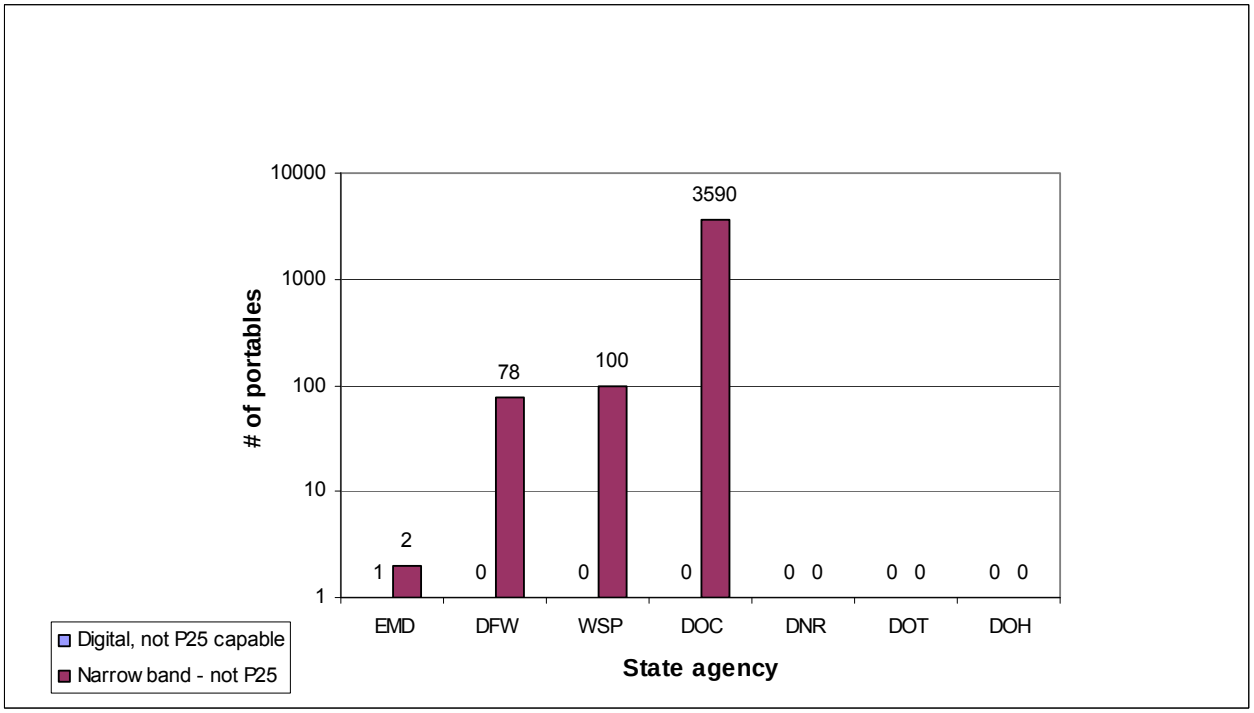


Figure 21 Portables, digital and/or narrowband - not P25 capable reported by state agencies

Mobile Radio Equipment

Table 28 and Table 29 show the number of mobile radios reported in the survey by Homeland Security region and state agencies respectively.

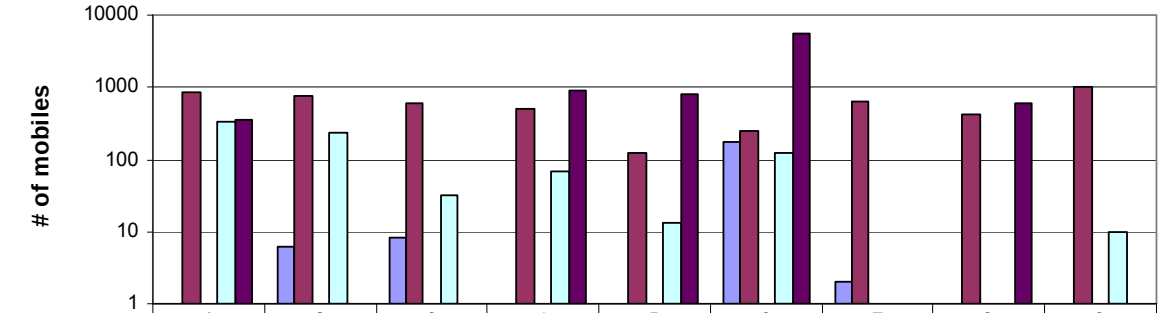
Table 28 Mobile radios reported by Homeland Security regions

Mobiles	Homeland Security region									
	1	2	3	4	5	6	7	8	9	TOTAL
25-50 MHz	0	6	9	0	0	178	2	0	0	194
138-174 MHz	856	763	616	512	122	255	640	424	1032	5218
220-222 MHz	0	0	0	0	0	0	0	0	0	0
406-470 MHz	338	234	32	70	14	122	0	0	10	820
794-869 MHz	351	0	0	884	805	5629	0	585	0	8254
P25 digital	14	38	111	20	734	51	11	74	0	1053
P25 capable/compatible	163	43	147	53	0	68	41	132	20	666
Digital, not P25	76	32	25	0	0	15	21	98	32	299
Narrowband - not P25	181	2508	164	0	93	420	211	98	729	4403
Analog only	860	864	433	1406	204	6088	596	763	941	12154
Trunked	304	0	159	908	805	5543	0	657	1	8377
Conventional	793	891	545	496	151	563	620	808	929	5796

Table 29 Mobile radios reported by state agencies

Mobiles	State agency							
	EMD	DFW	WSP	DOC	DNR	DOT	DOH	TOTAL
25-50 MHz	54	0	0	0	0	0	0	54
138-174 MHz	55	500	2040	10	1012	0	0	3617
220-222 MHz	0	0	0	0	0	0	0	0
406-470 MHz	6	0	0	0	0	0	0	6
794-869 MHz	10	0	0	185	0	4500	0	4695
P25 digital	0	0	1014	6	0	0	0	1020
P25 capable/compatible	0	225	0	0	1012	0	0	1237
Not P25 digital/capable	0	0	0	0	0	0	0	0
Narrowband - not P25	2	140	0	195	0	0	0	337
Analog only	125	200	1037	146	0	4500	0	6008
Trunked	10	0	0	18	0	4275	0	4303
Conventional	125	500	2040	146	1012	225	0	4048

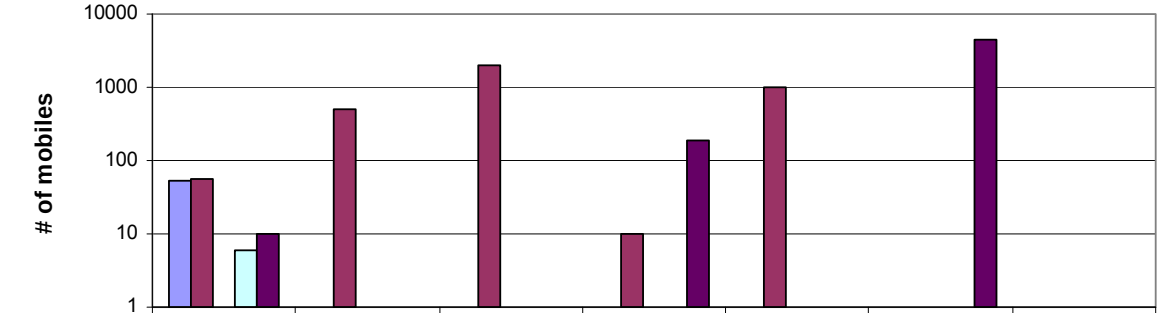
Mobiles by Frequency Band



	1	2	3	4	5	6	7	8	9
25-50 MHz	0	6	9	0	0	178	2	0	0
138-174 MHz	856	763	616	512	122	255	640	424	1032
220-222 MHz	0	0	0	0	0	0	0	0	0
406-470 MHz	338	234	32	70	14	122	0	0	10
794-869 MHz	351	0	0	884	805	5629	0	585	0

Homeland Security region

Figure 22 Mobiles by frequency band reported by Homeland Security regions



	EMD	DFW	WSP	DOC	DNR	DOT	DOH
25-50 MHz	54	0	0	0	0	0	0
138-174 MHz	55	500	2040	10	1012	0	0
220-222 MHz	0	0	0	0	0	0	0
406-470 MHz	6	0	0	0	0	0	0
794-869 MHz	10	0	0	185	0	4500	0

State agency

Figure 23 Mobiles by frequency band reported by state agencies

Mobile Attributes

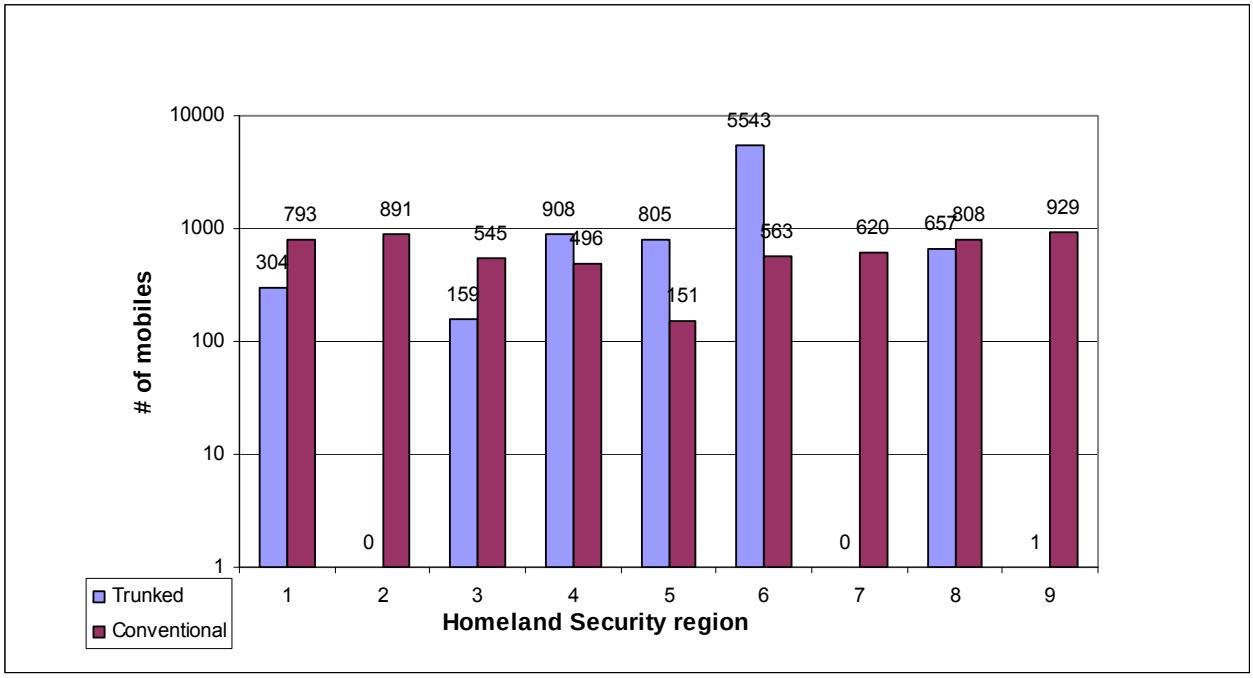


Figure 24 Conventional/trunked mobiles reported by Homeland Security regions

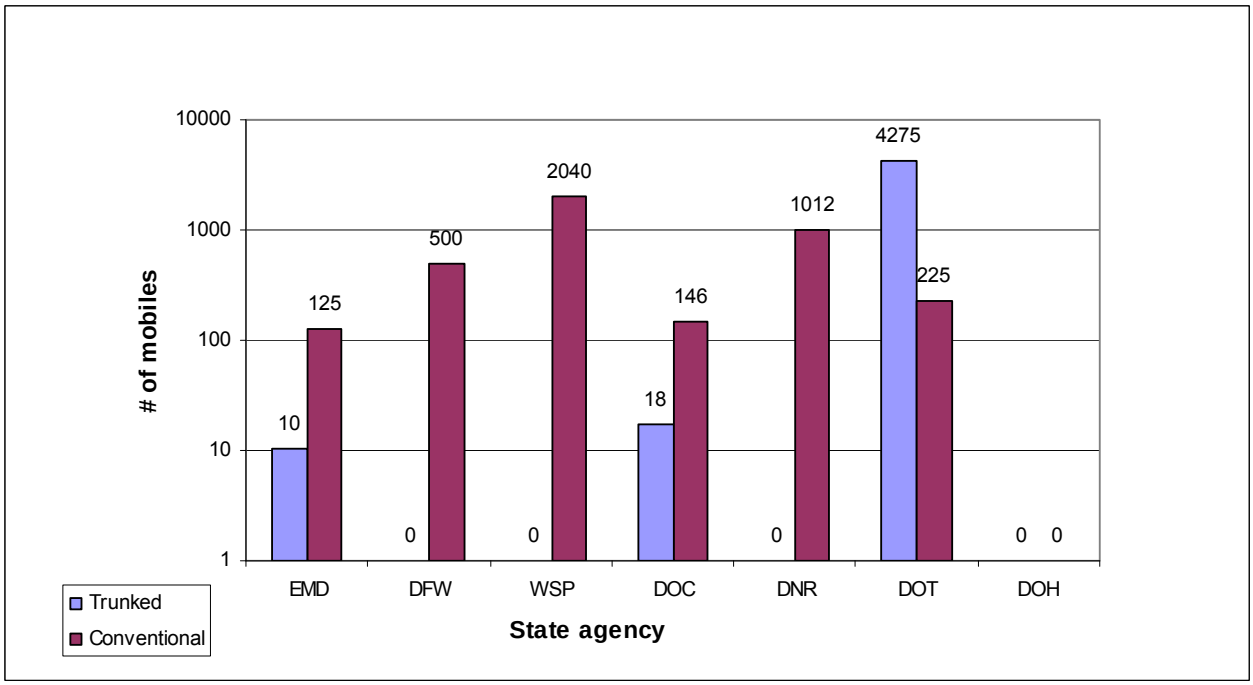


Figure 25 Conventional/trunked mobiles reported by state agencies

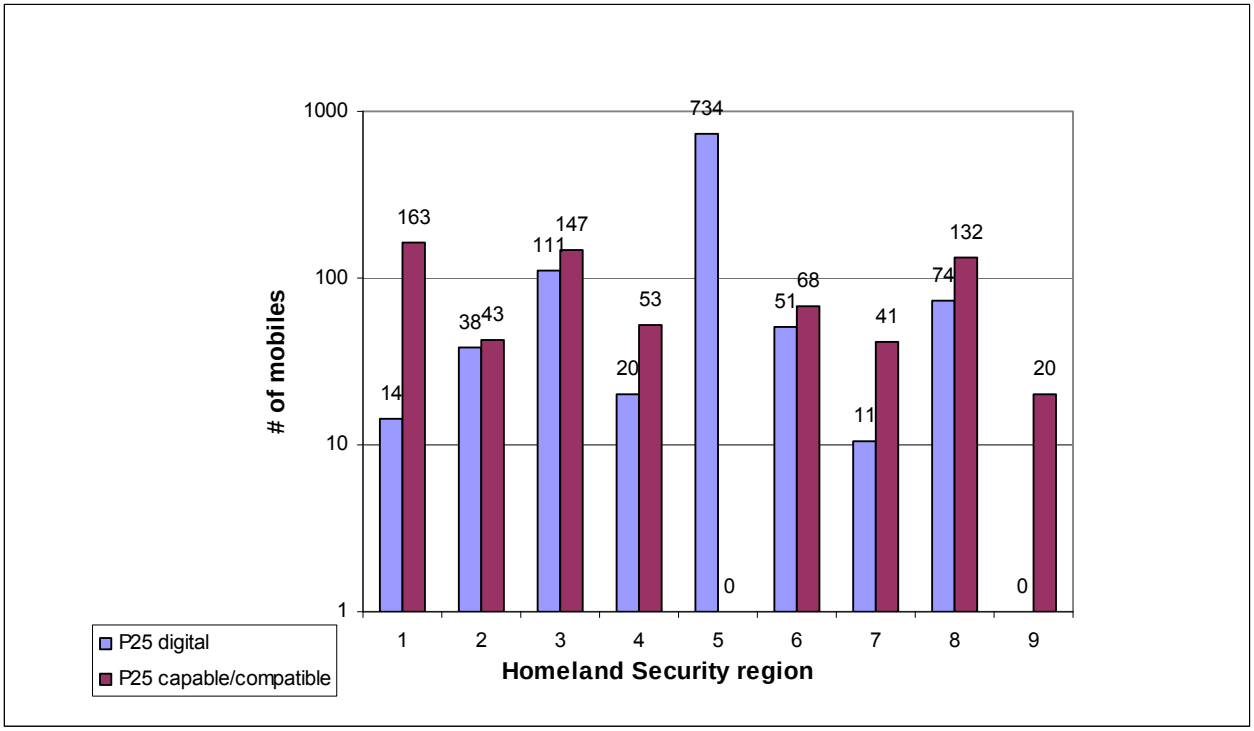


Figure 26 P25 protocol mobiles reported by Homeland Security regions

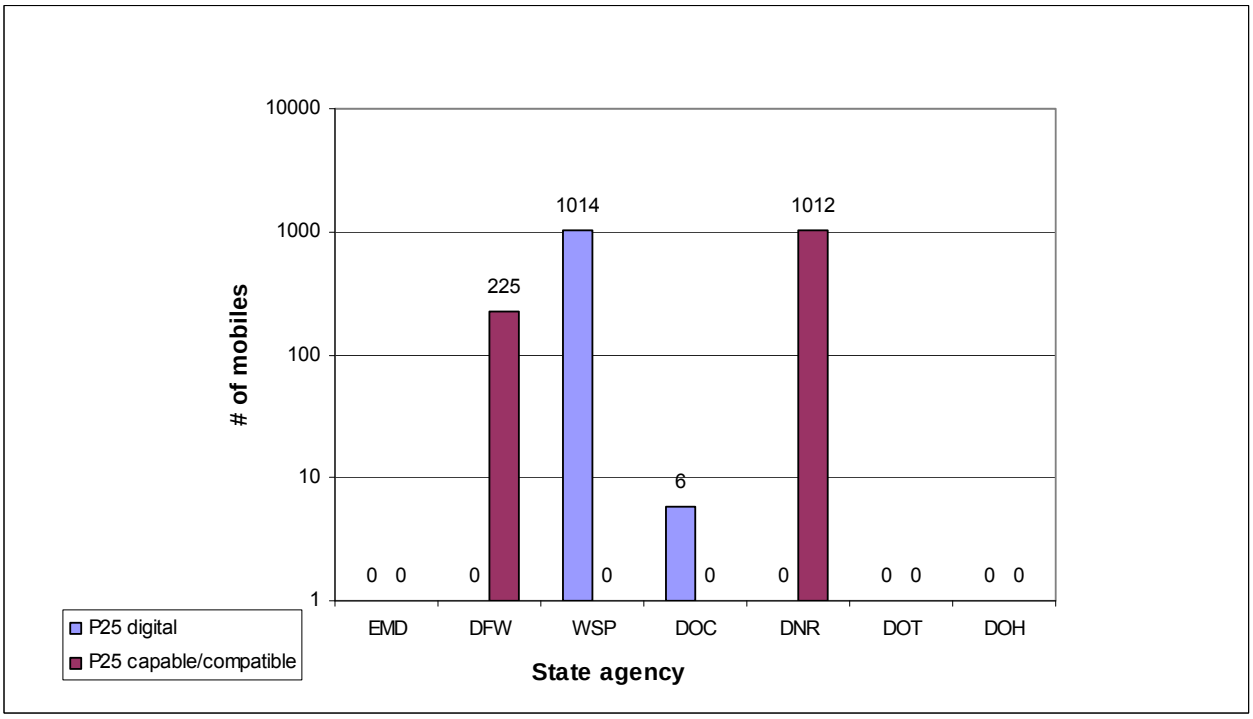


Figure 27 P25 protocol mobiles reported by state agencies

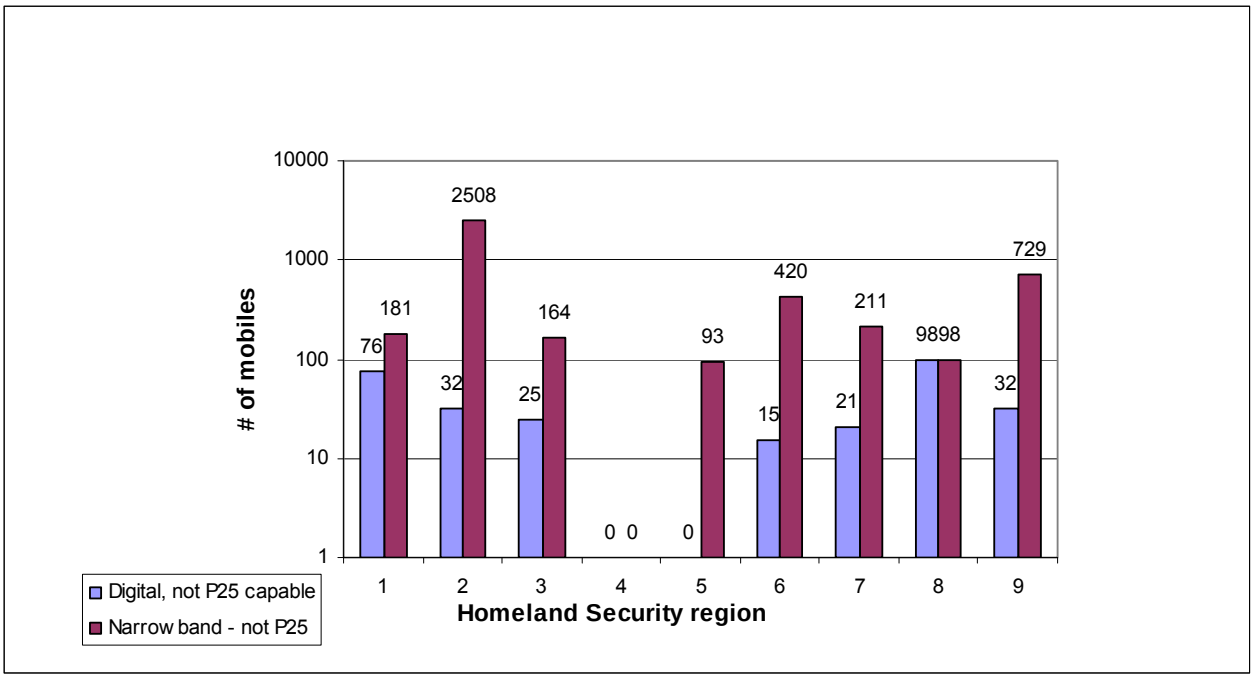


Figure 28 Mobiles, digital and/or narrowband - not P25 capable - reported by Homeland Security regions

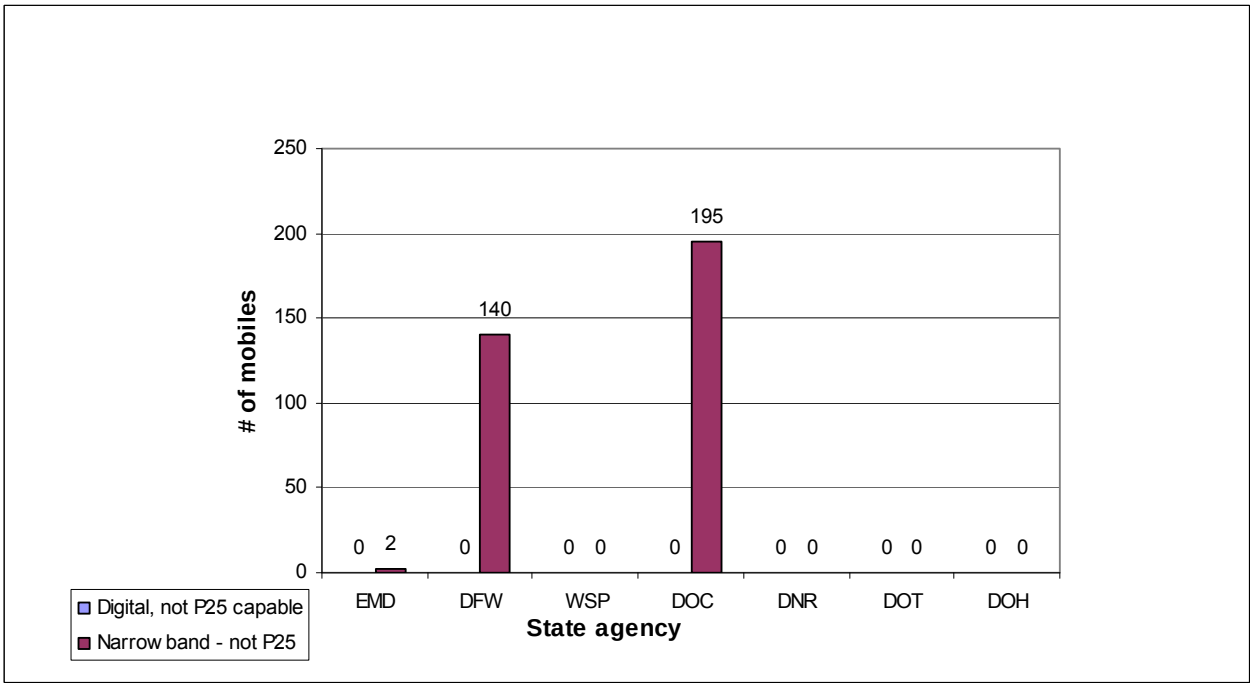


Figure 29 Mobiles, digital and/or narrowband - not P25 capable - reported by state agencies

Base Stations/Repeaters

Table 30 and Table 31show the number of base stations and repeaters reported in the survey by Homeland Security region and state agencies respectively.

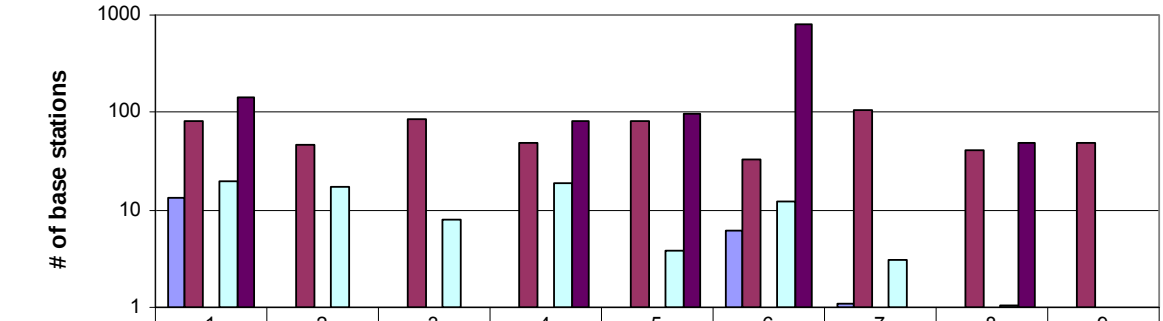
Table 30 Base stations - Homeland Security regions

Base stations	Homeland Security region									
	1	2	3	4	5	6	7	8	9	TOTAL
25-50 MHz	14	0	0	0	0	6	1	0	0	21
138-174 MHz	83	47	86	49	81	33	108	41	49	577
220-222 MHz	0	0	0	0	0	0	0	0	0	0
406-470 MHz	20	18	8	19	4	12	3	1	0	85
794-869 MHz	146	0	0	81	96	814	0	49	0	1186
P25 digital	2	0	1	6	98	14	0	8	0	128
P25 capable	28	0	1	19	38	16	2	15	4	123
Not P25 digital/capable	149	0	1	0	0	0	0	1	1	152
Narrowband - not P25	173	7	2	20	75	17	31	8	12	344
Analog only	110	61	92	143	81	775	107	75	38	1481
Trunked	142	0	0	77	90	811	0	57	3	1180
Conventional	102	62	90	69	90	52	112	27	34	637
Base station configuration	76	27	72	75	16	674	55	17	19	1030
Repeater configuration	162	38	18	69	172	183	57	72	25	1116

Table 31 Base stations - state agencies

Base stations	State agency							
	DNR	EMD	DOC	WSP	DFW	DOT	DOH	TOTAL
25-50 MHz	0	1	0	0	0	0	0	1
138-174 MHz	126	1	20	215	15	0	0	377
220-222 MHz	0	0	0	0	0	0	0	0
406-470 MHz	0	0	0	0	0	0	0	0
794-869 MHz	0	0	112	0	0	350	1	463
P25 digital	0	0	0	0	0	0	0	0
P25 capable	126	0	49	215	1	0	0	391
Not P25 digital/capable	0	0	0	0	0	0	0	0
Narrowband - not P25	0	0	132	0	0	0	0	132
Analog only	0	0	132	0	15	350	0	497
Trunked	0	0	15	0	0	347	0	361
Conventional	126	0	117	215	15	4	0	477
Base station configuration	20	0	49	189	14	4	0	276
Repeater configuration	106	0	83	26	1	347	0	562

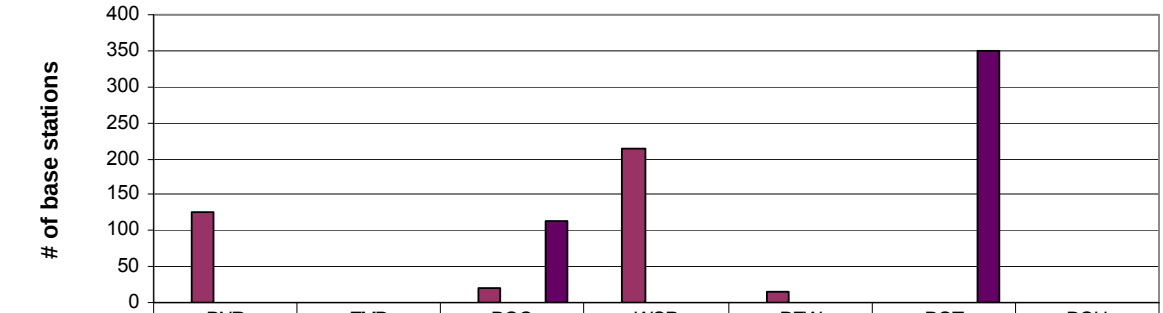
Base Stations by Frequency Band



	1	2	3	4	5	6	7	8	9
25-50 MHz	14	0	0	0	0	6	1	0	0
138-174 MHz	83	47	86	49	81	33	108	41	49
220-222 MHz	0	0	0	0	0	0	0	0	0
406-470 MHz	20	18	8	19	4	12	3	1	0
794-869 MHz	146	0	0	81	96	814	0	49	0

Homeland Security region

Figure 30 Base stations by frequency band reported by Homeland Security regions



	DNR	EMD	DOC	WSP	DFW	DOT	DOH
25-50 MHz	0	1	0	0	0	0	0
138-174 MHz	126	1	20	215	15	0	0
220-222 MHz	0	0	0	0	0	0	0
406-470 MHz	0	0	0	0	0	0	0
794-869 MHz	0	0	112	0	0	350	1

State agency

Figure 31 Base stations by frequency band reported by state agencies

Base Station Attributes

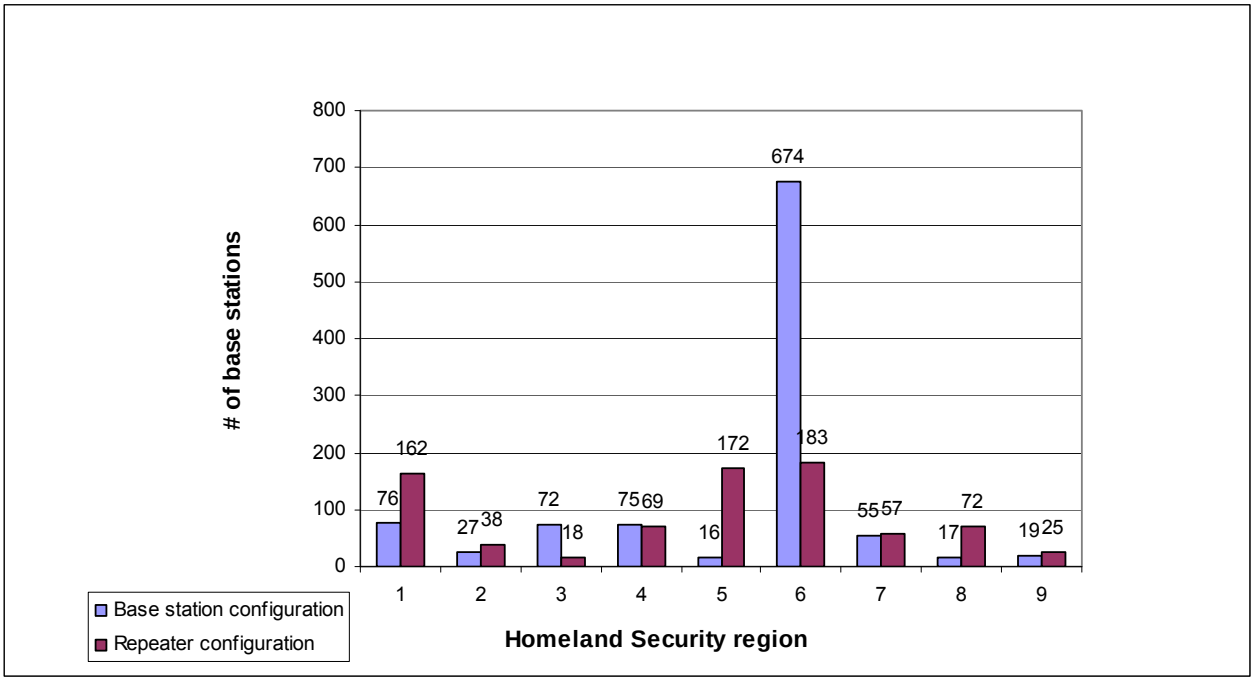


Figure 32 Base station configuration reported by Homeland Security regions

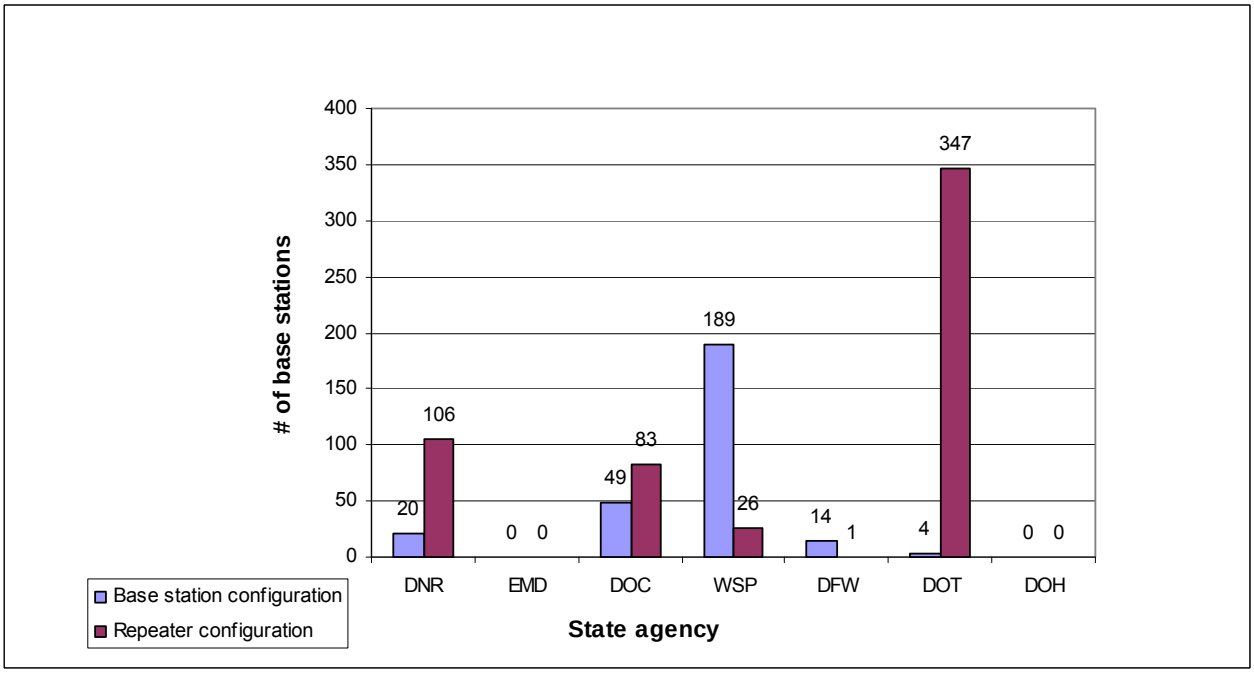


Figure 33 Base station configuration reported by state agencies

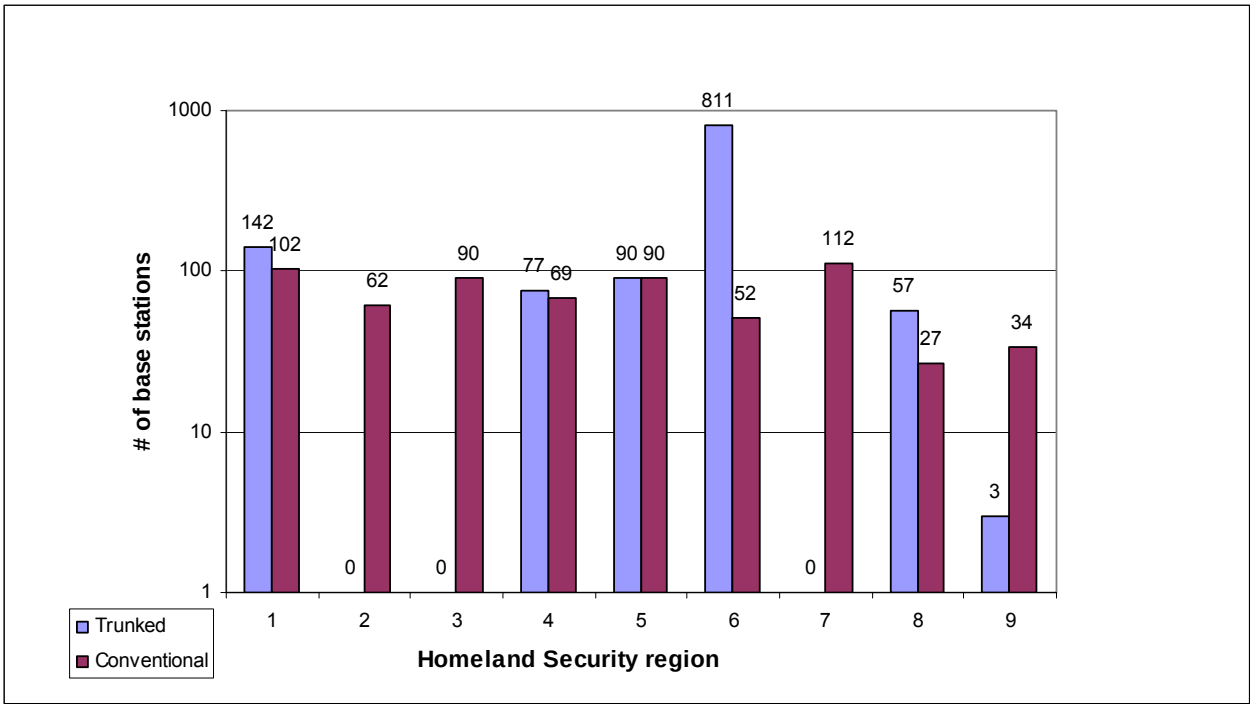


Figure 34 Conventional/trunked base stations reported by Homeland Security regions

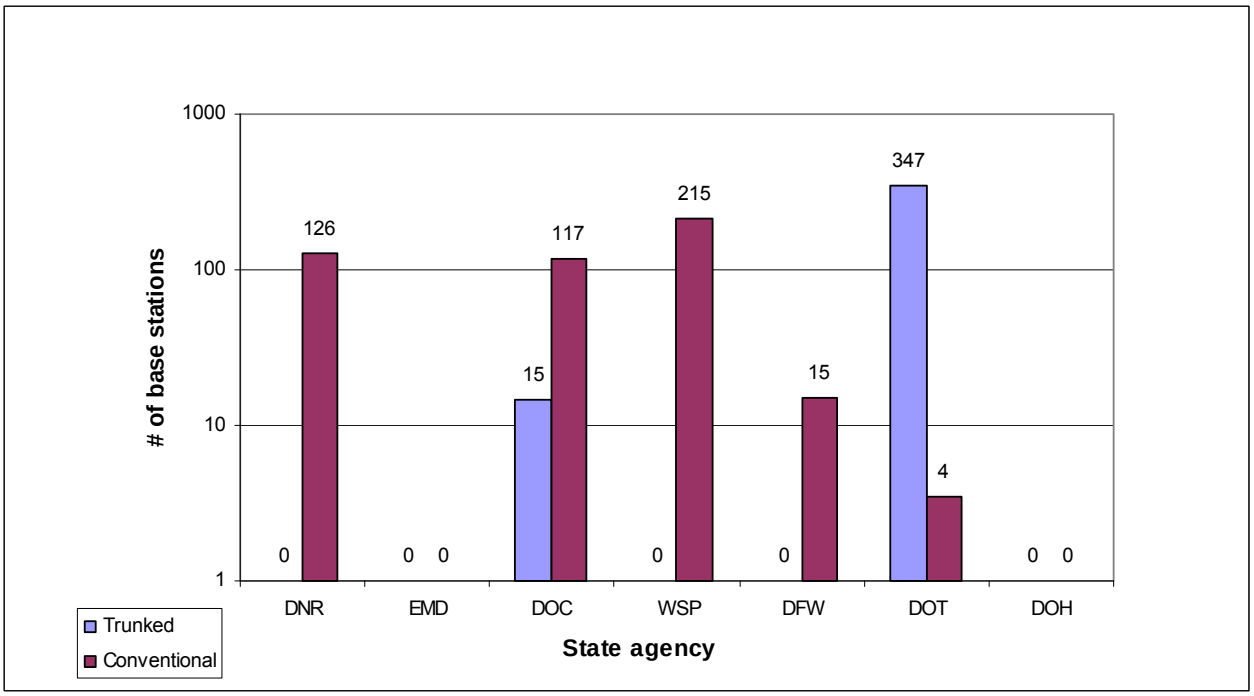


Figure 35 Conventional/trunked base stations reported by state agencies

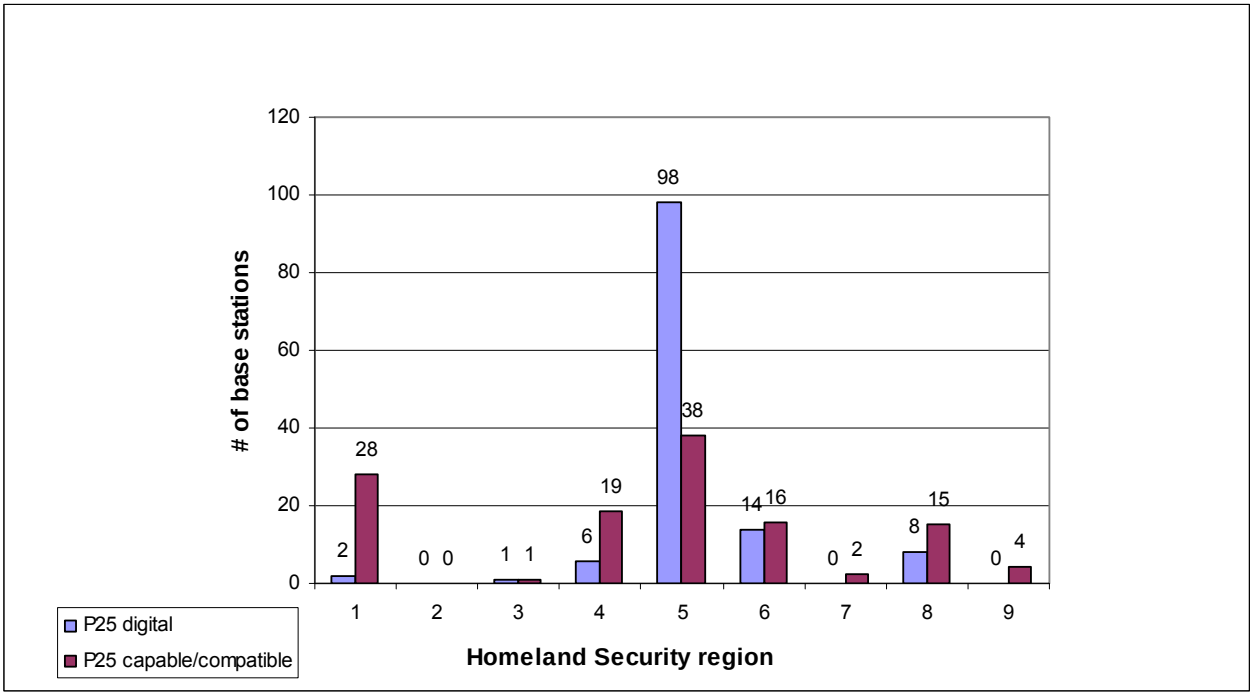


Figure 36 P25 protocol base stations reported by Homeland Security regions

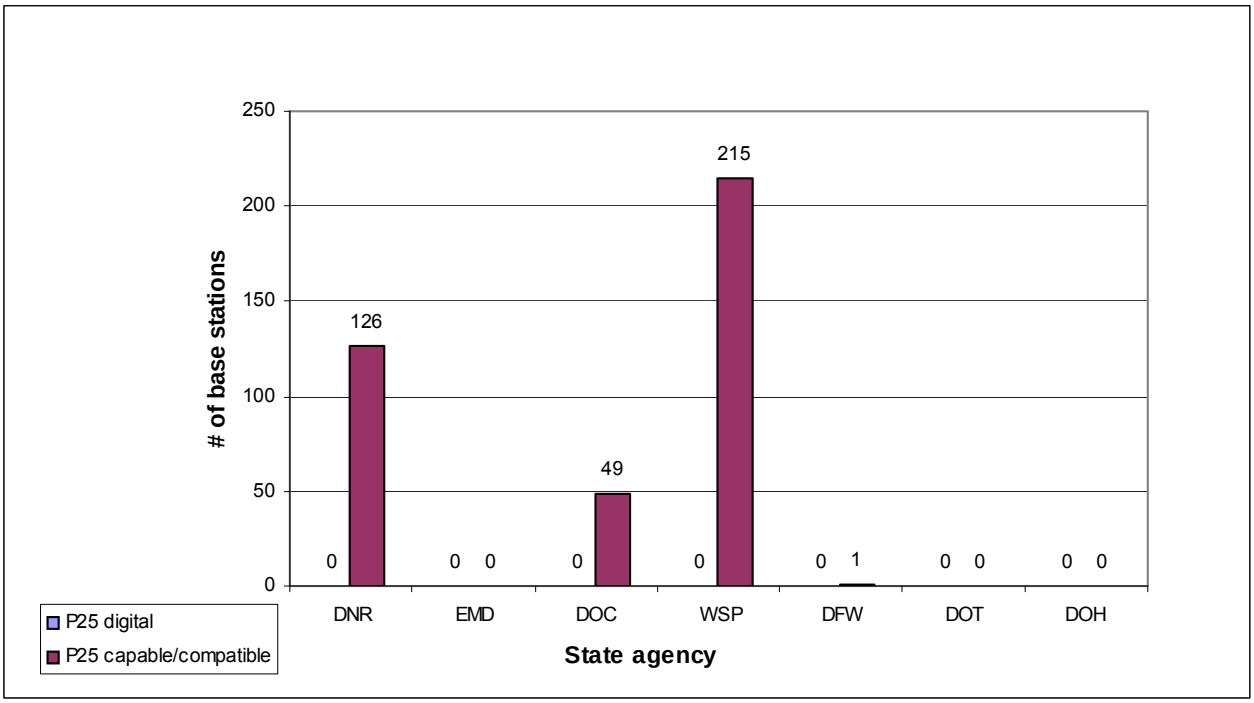


Figure 37 P25 protocol base stations reported by state agencies

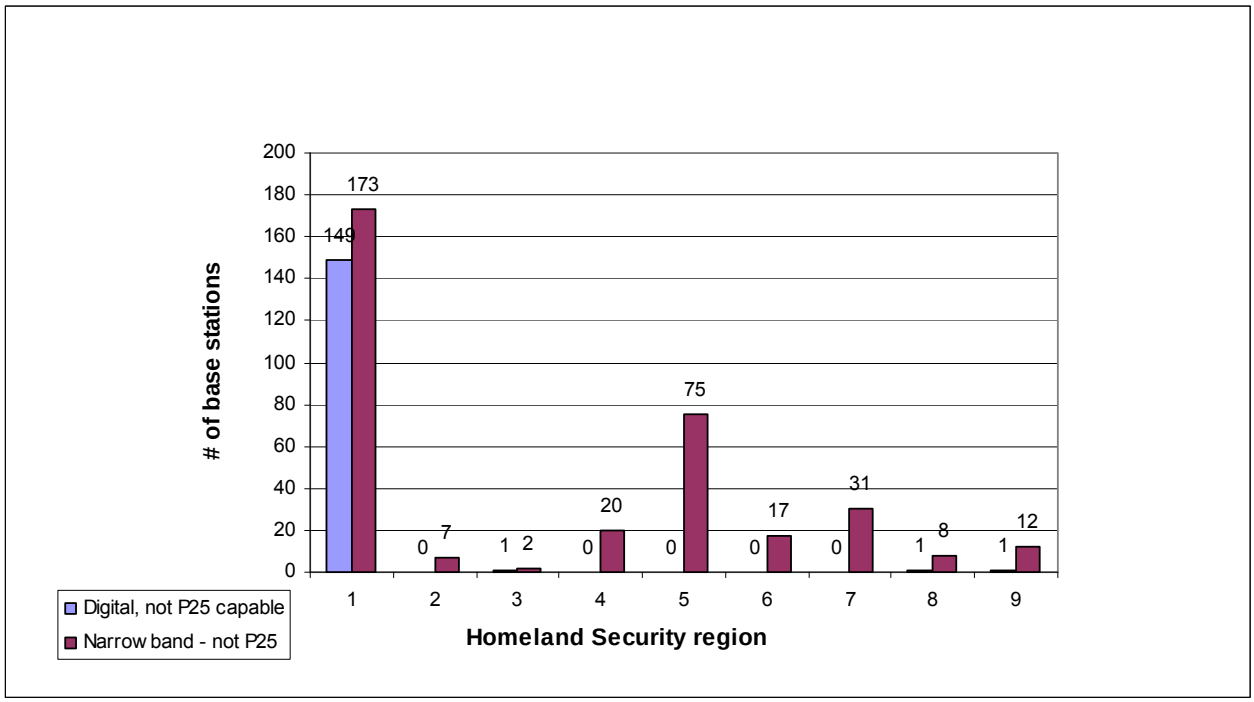


Figure 38 Base stations, digital and/or narrowband - not P25 capable - reported by Homeland Security regions

Base stations, digital and/or narrowband - not P25 capable - reported by state agencies (not charted) were reported only by the Washington State Patrol (WSP). WSP reported 132 narrowband base stations. None of the state agencies reported digital base stations - not P25 capable.

Technical - infrastructure

Introduction

Data from the tower/shelter section of the study came from 315 responder records in which participants answered at least one of the questions in the section. The distribution of the responders using the agency mission category is shown in Table 32.

Table 32 Source of data for towers/shelters

Reporting agency	Responses
Fire - city fire department	5
Fire - county fire department/district	5
Fire - fire protection district	1
Fire - industrial fire district	2
Law enforcement - police department	87
Law enforcement - sheriff's office	16
Law enforcement - tribal police department	1
Other	20
Other - emergency management center	18
Other - PSAP	99
Other - public services	31
Other - public utilities	2
Other - transportation	28

Tower Utilization

A total of 315 towers were reported by Homeland Security regions and state agencies. This total consists of 170 towers utilized in Regions 1 through 9, plus an additional 145 towers for state agencies. Towers are reported by region and by state agency and are shown in Figure 39 and Figure 40 respectively.

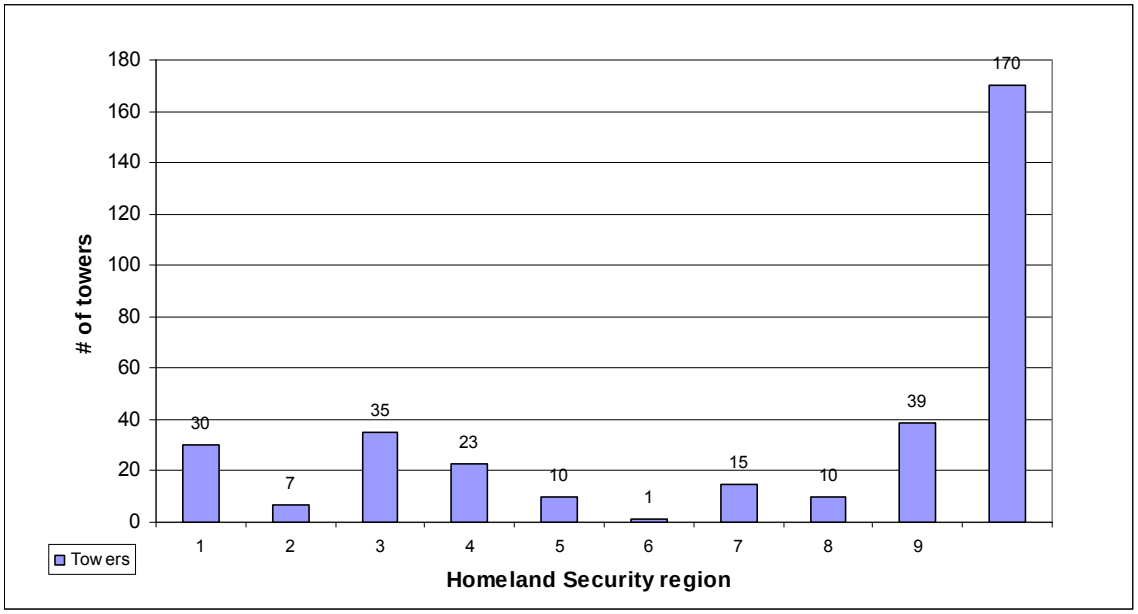


Figure 39 Towers reported by Homeland Security region

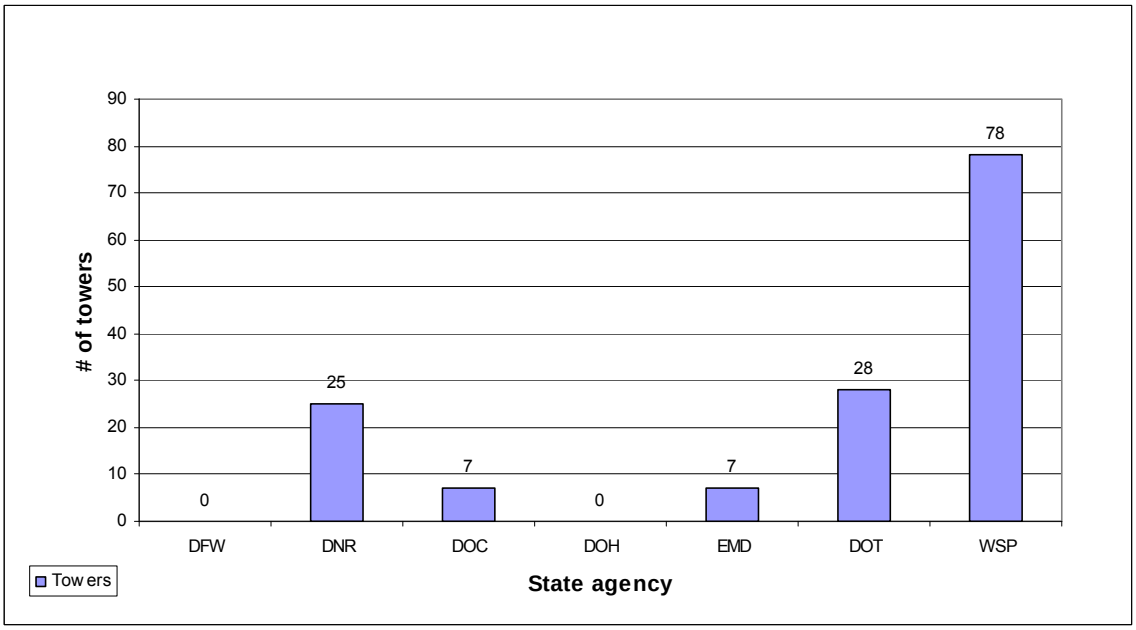


Figure 40 Towers reported by state agency

Tower Ownership

Figure 41 and Figure 42 show the breakdown of leased, owned and not reported (N/R) tower facilities.

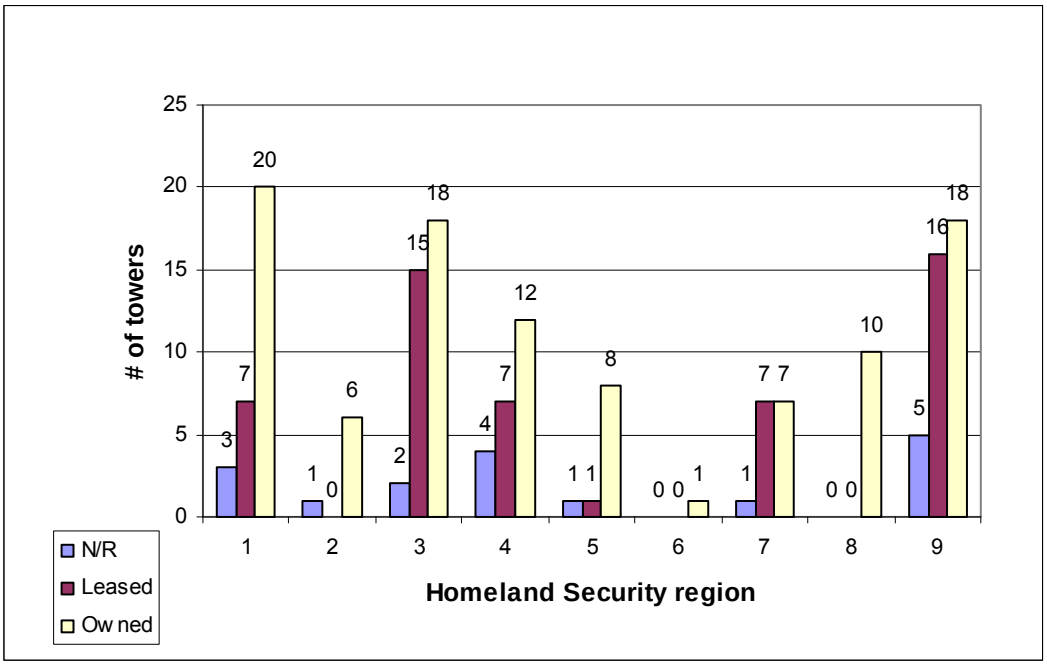


Figure 41 Tower ownership reported by Homeland Security regions

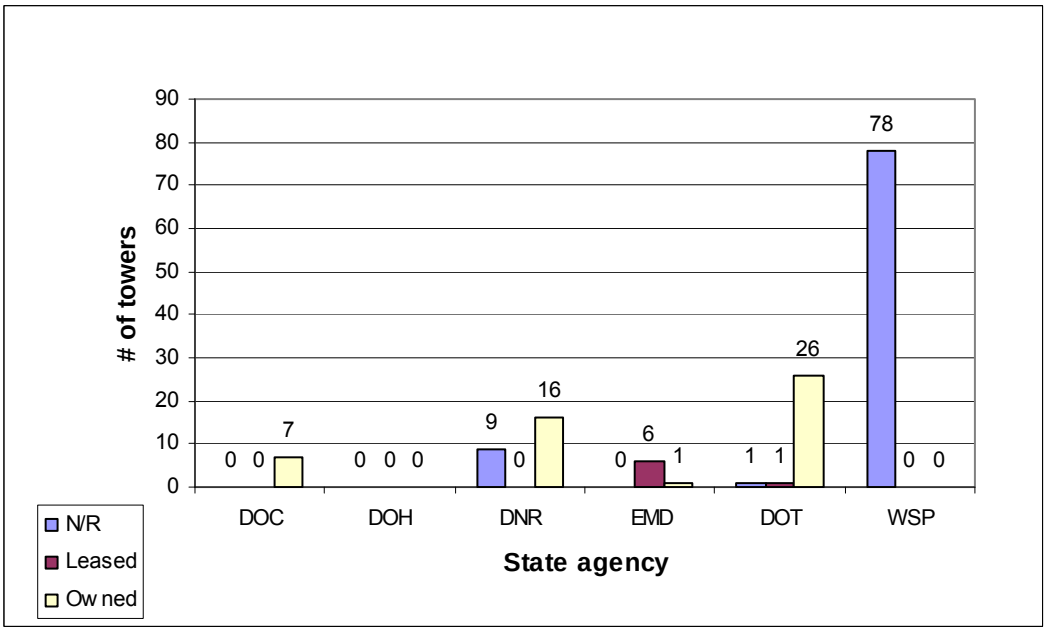
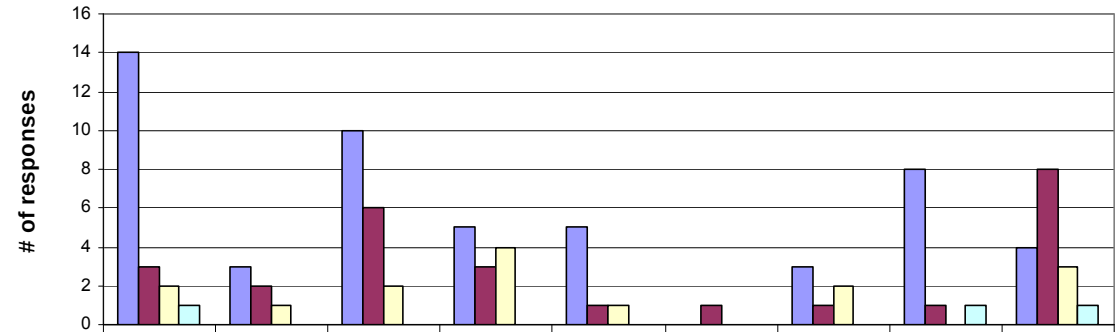


Figure 42 Tower ownership reported by state agencies

Tower Condition

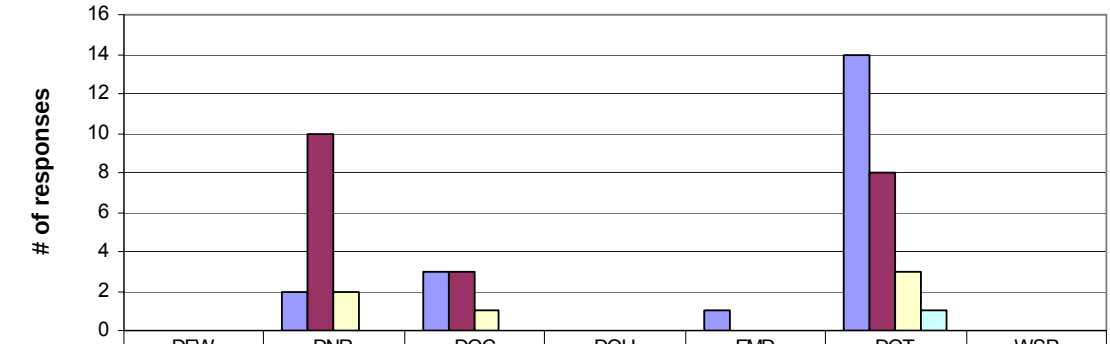
The remainder of the report uses the owned facilities data only. Regions and state agencies report that the majority of their tower and shelter facilities are in excellent to good condition. Figure 43 and Figure 44 identify tower and shelter facility conditions by Homeland Security region and state agency respectively.



	1	2	3	4	5	6	7	8	9
Excellent	14	3	10	5	5	0	3	8	4
Good	3	2	6	3	1	1	1	1	8
Fair	2	1	2	4	1	0	2	0	3
Poor	1	0	0	0	0	0	0	1	1

Homeland Security region

Figure 43 Tower condition reported by Homeland Security regions



	DFW	DNR	DOC	DOH	EMD	DOT	WSP
Excellent	0	2	3	0	1	14	0
Good	0	10	3	0	0	8	0
Fair	0	2	1	0	0	3	0
Poor	0	0	0	0	0	1	0

State agency

Figure 44 Tower condition reported by state agencies

Heating, Ventilation and Air Conditioning (HVAC)

Information regarding HVAC systems for existing shelters is shown in Figure 45 and Figure 46 as reported by Homeland Security region and state agency respectively.

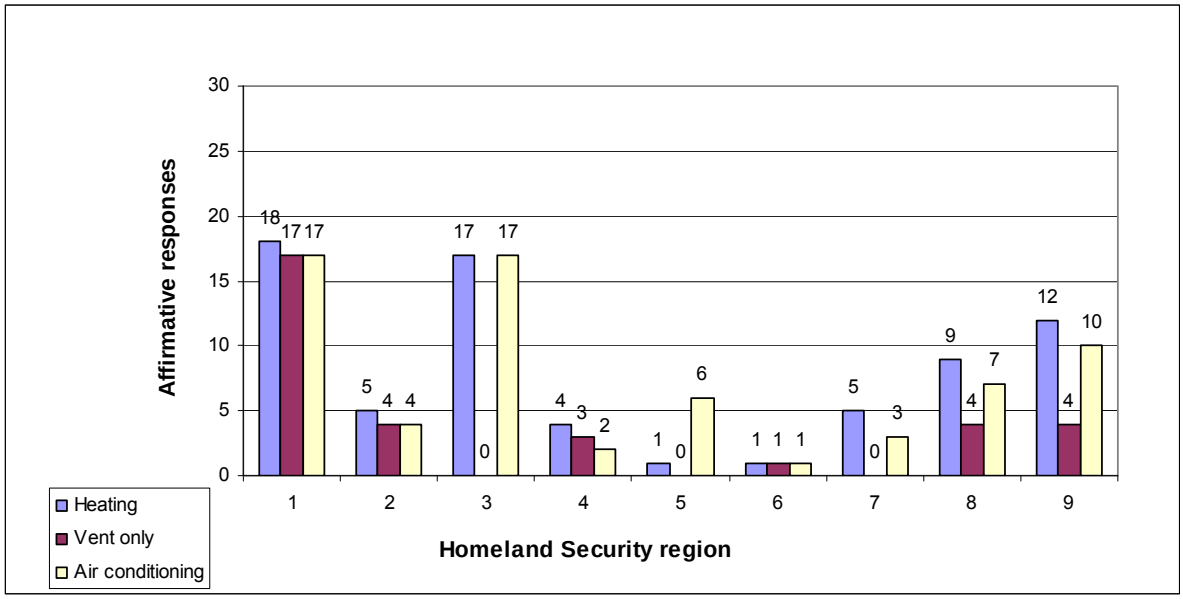


Figure 45 Shelter HVAC systems reported by Homeland Security regions

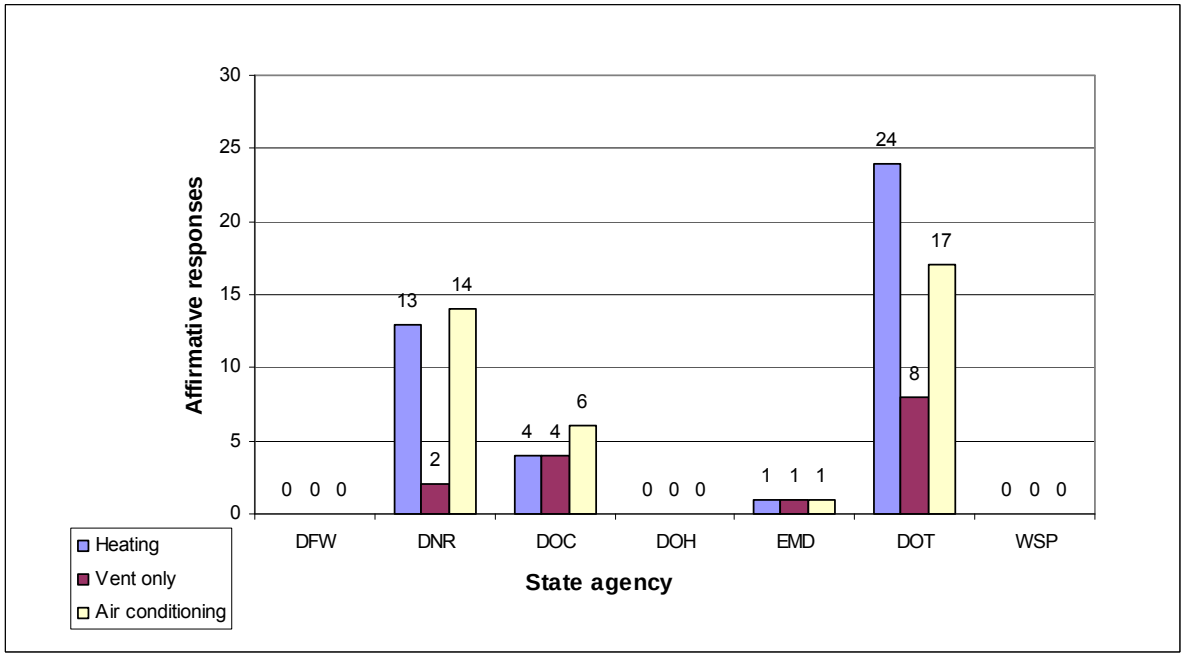


Figure 46 Shelter HVAC systems reported by state agencies

Site Expansion Inhibitors

Approximately 55 percent of responders indicate that current facilities have little to no room for expansion. The major inhibitors, as reported by Homeland Security region and state agencies, are shown in Figure 47 and Figure 48 respectively.

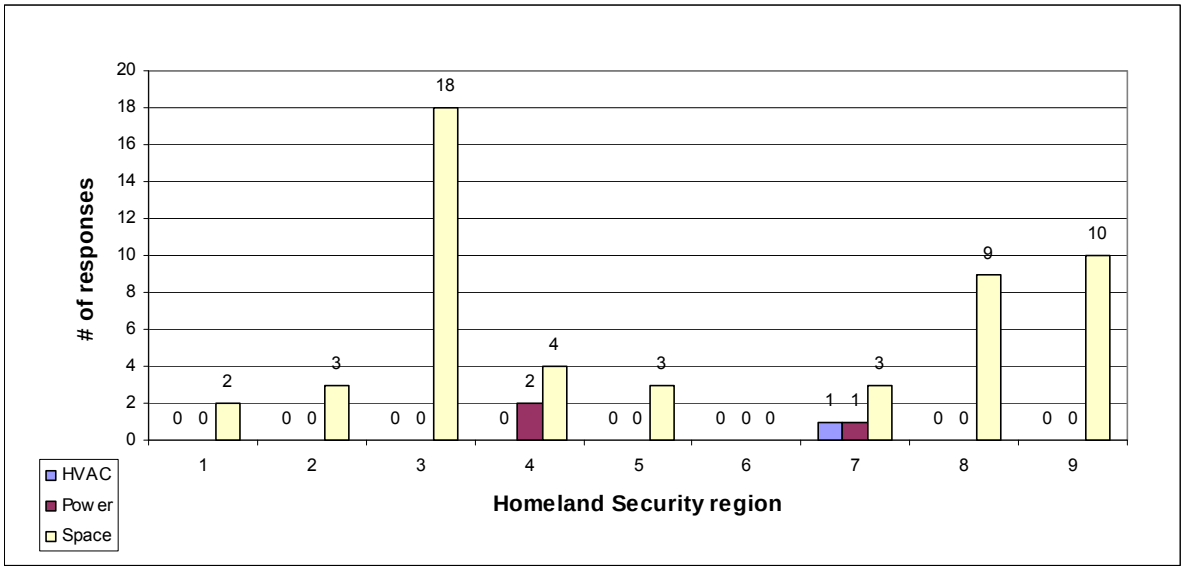


Figure 47 Expansion inhibitors reported by Homeland Security regions

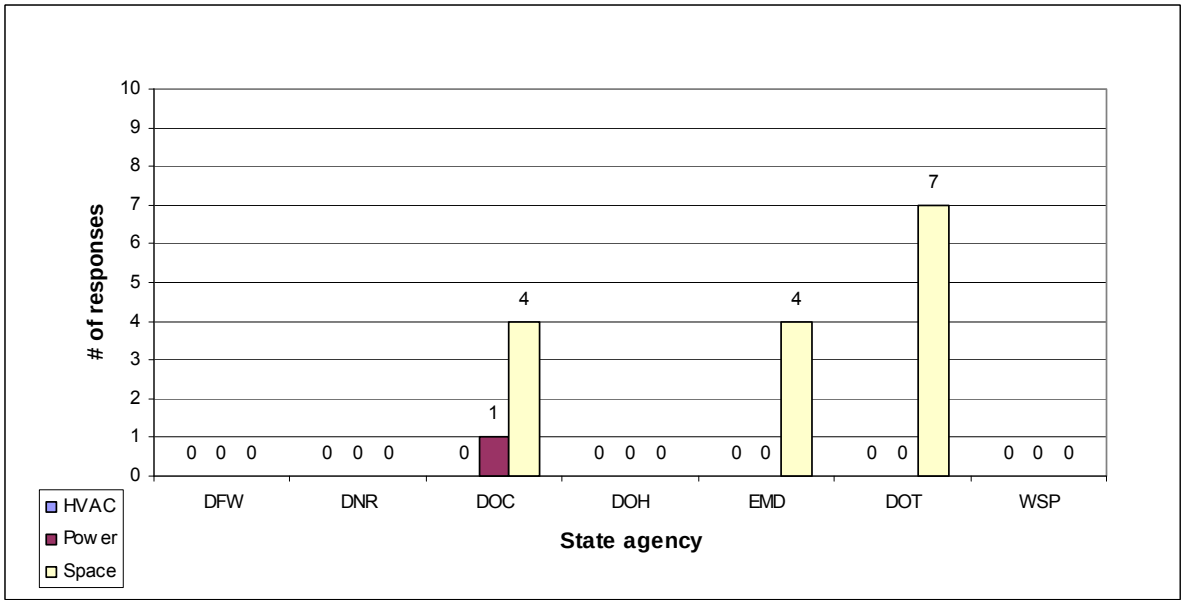
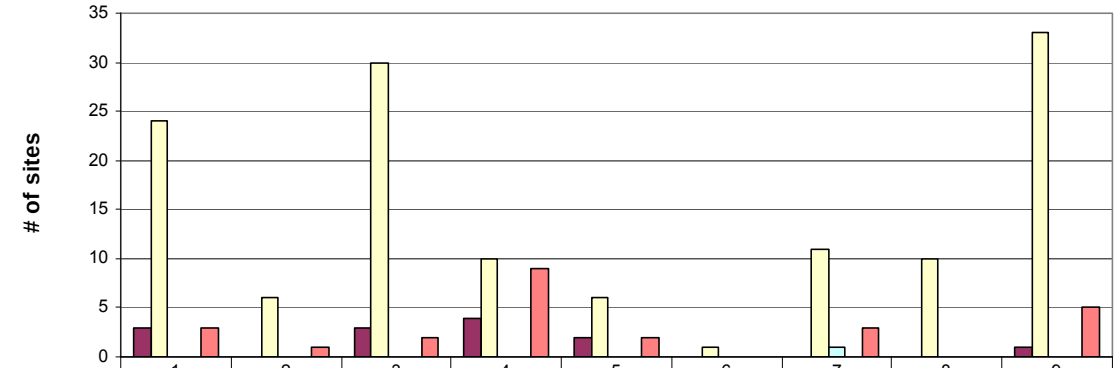


Figure 48 Expansion inhibitors reported by state agencies

Primary Power

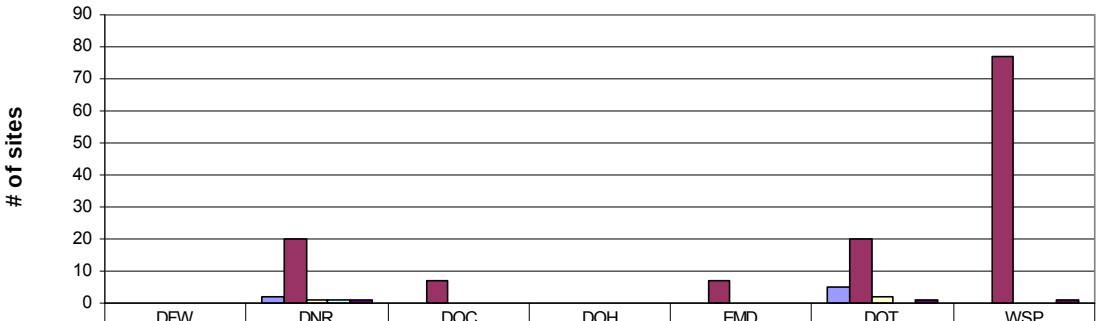
The primary power system for the majority of facilities is commercial power. Figure 49 and Figure 50 display the power systems employed by Homeland Security region and state agencies at existing sites.



	1	2	3	4	5	6	7	8	9
Generator	3	0	3	4	2	0	0	0	1
Commercial	24	6	30	10	6	1	11	10	33
Solar	0	0	0	0	0	0	1	0	0
Other	0	0	0	0	0	0	0	0	0
Blank	3	1	2	9	2	0	3	0	5

Homeland Security region

Figure 49 Primary power reported by Homeland Security regions



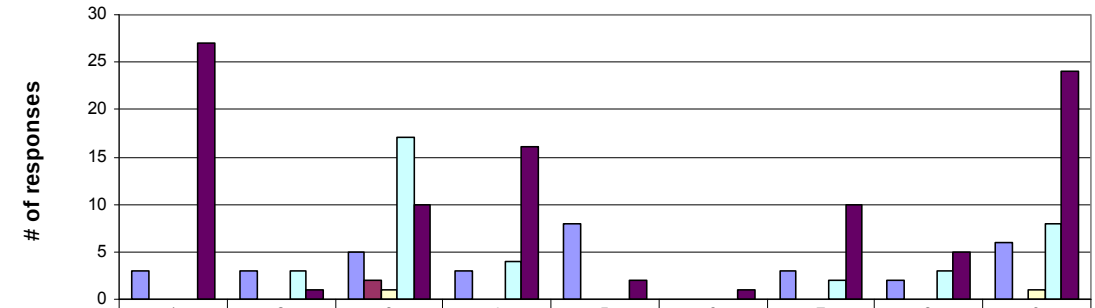
	DFW	DNR	DOC	DOH	EMD	DOT	WSP
Generator	0	2	0	0	0	5	0
Commercial	0	20	7	0	7	20	77
Solar	0	1	0	0	0	2	0
Other	0	1	0	0	0	0	0
Blank	0	1	0	0	0	1	1

State agency

Figure 50 Primary power reported by state agencies

Power Backup

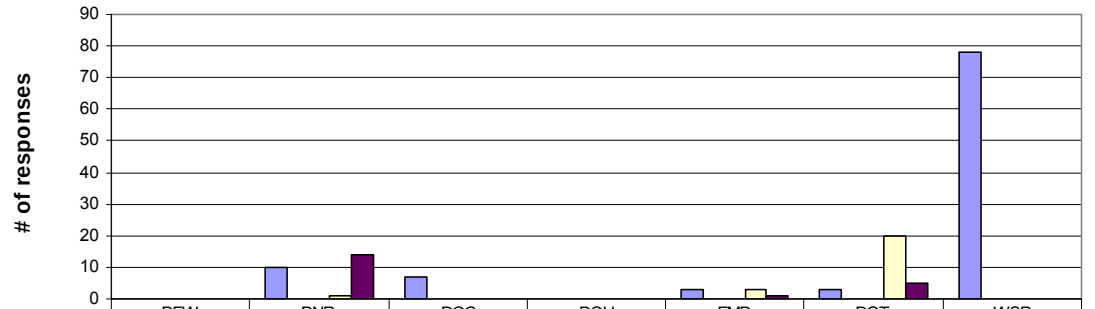
Backup systems commonly consist of generators, for which several fuel types are available. Diesel and propane fuels were the most commonly reported types of fuel used. Figure 51 and Figure 52 show the fuels used by Homeland Security region and state agencies for systems in place.



	1	2	3	4	5	6	7	8	9
Diesel	3	3	5	3	8	0	3	2	6
Gas	0	0	2	0	0	0	0	0	0
Natural gas	0	0	1	0	0	0	0	0	1
Propane	0	3	17	4	0	0	2	3	8
Blank	27	1	10	16	2	1	10	5	24

Homeland Security region

Figure 51 Fuel type for backup power reported by Homeland Security regions



	DFW	DNR	DOC	DOH	EMD	DOT	WSP
Diesel	0	10	7	0	3	3	78
Gas	0	0	0	0	0	0	0
Natural gas	0	0	0	0	0	0	0
Propane	0	1	0	0	3	20	0
Blank	0	14	0	0	1	5	0

State agency

Figure 52 Fuel type for backup power reported by state agencies

Power Protection

Figure 53 and Figure 54 show the percentage of sites that employ uninterruptible power systems (UPS) and lightning protection technologies.

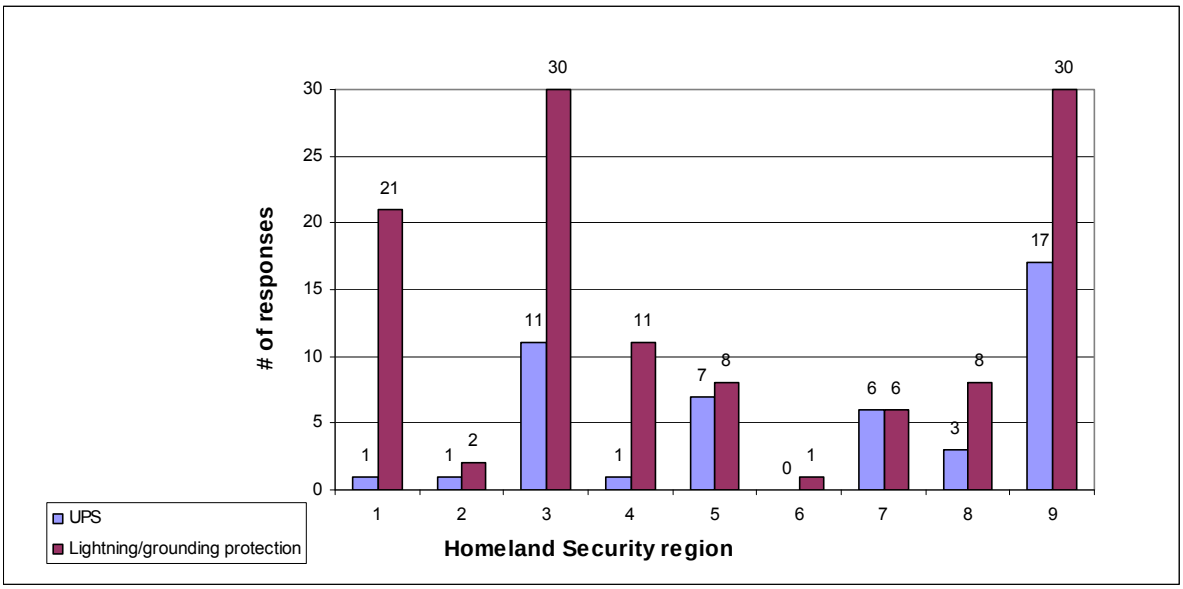


Figure 53 Power protection systems employed by Homeland Security regions

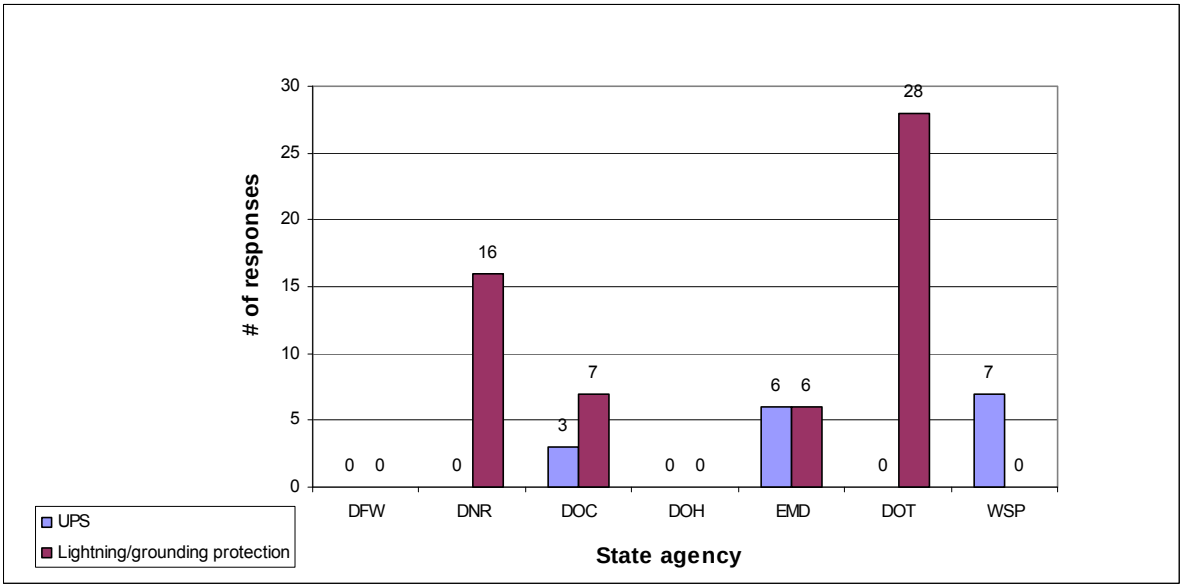


Figure 54 Power protection systems employed by state agencies

Alarm Systems

Figure 55 and Figure 56 show the number of alarms systems and type in use by Homeland Security region and state agencies.

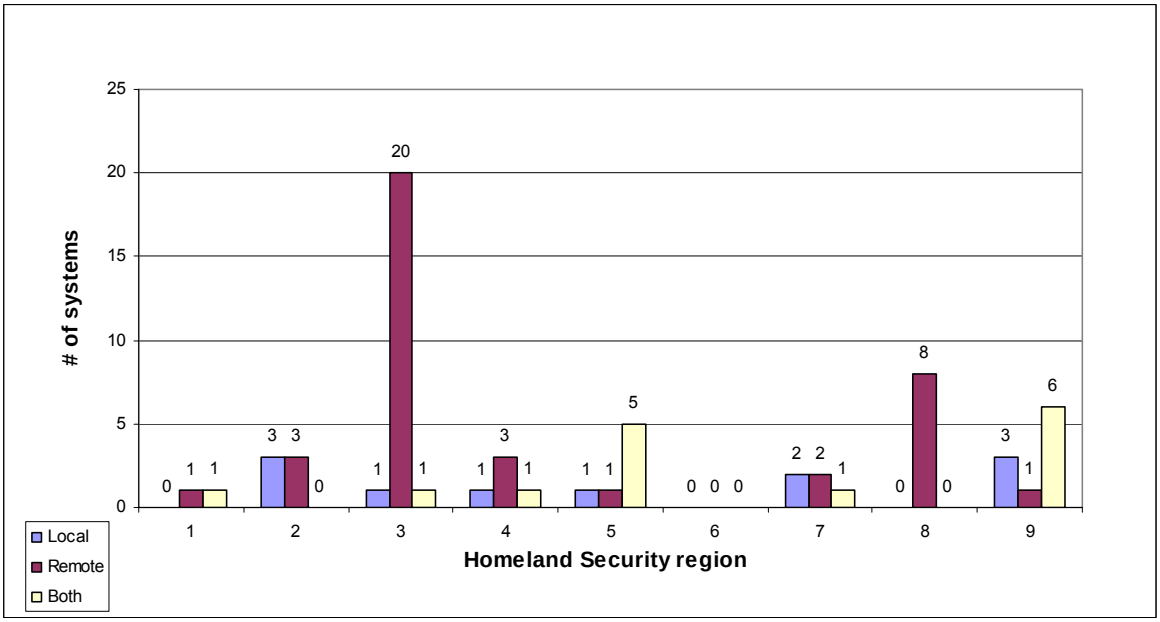
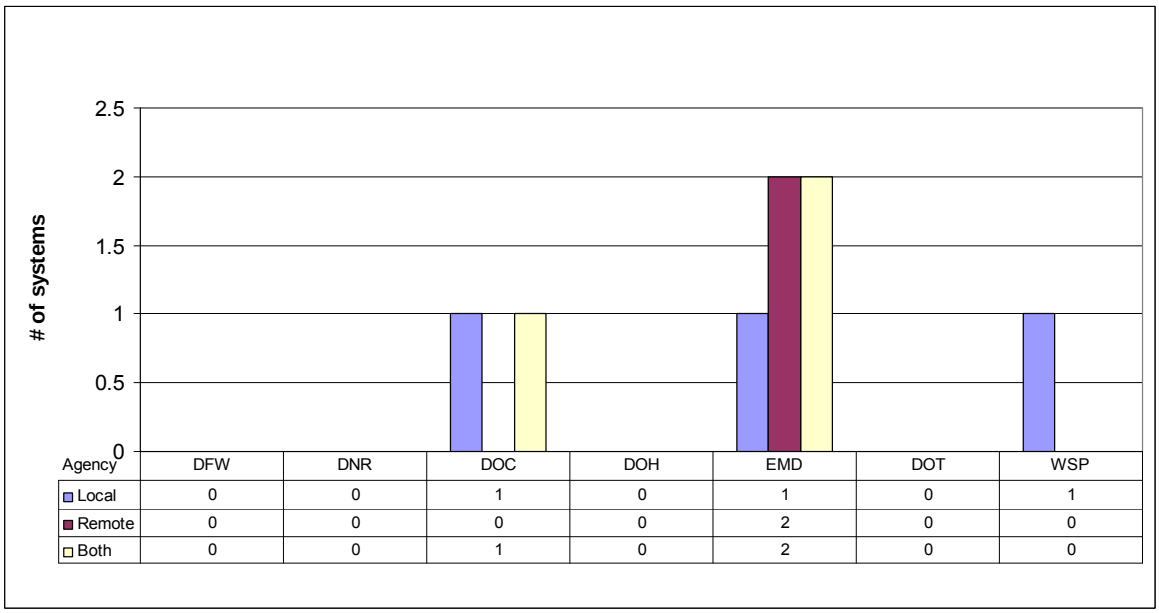


Figure 55 Alarm systems installed by Homeland Security regions

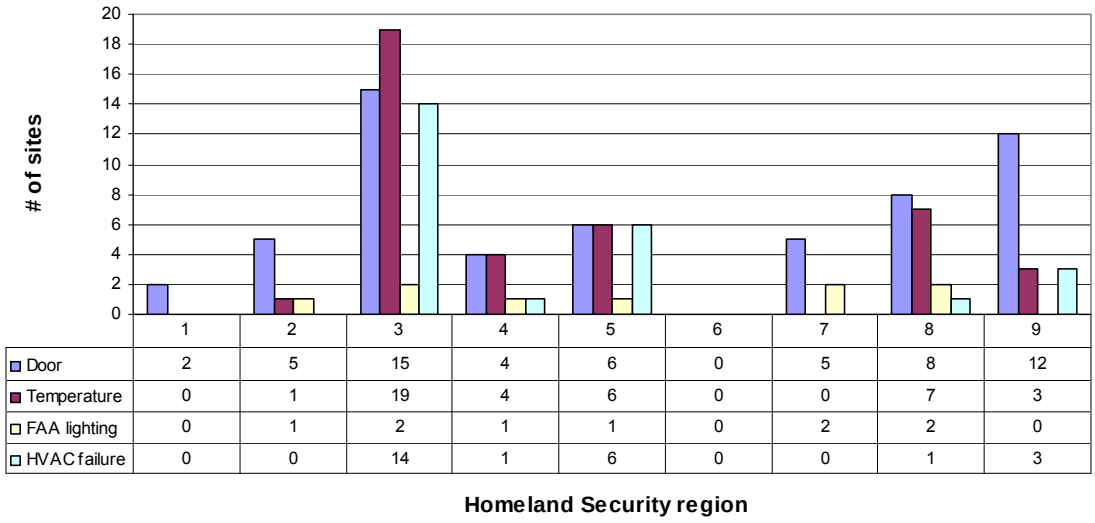


Agency	DFW	DNR	DOC	DOH	EMD	DOT	WSP
Local	0	0	1	0	1	0	1
Remote	0	0	0	0	2	0	0
Both	0	0	1	0	2	0	0

Figure 56 Alarm systems installed by state agencies

Elements Monitored

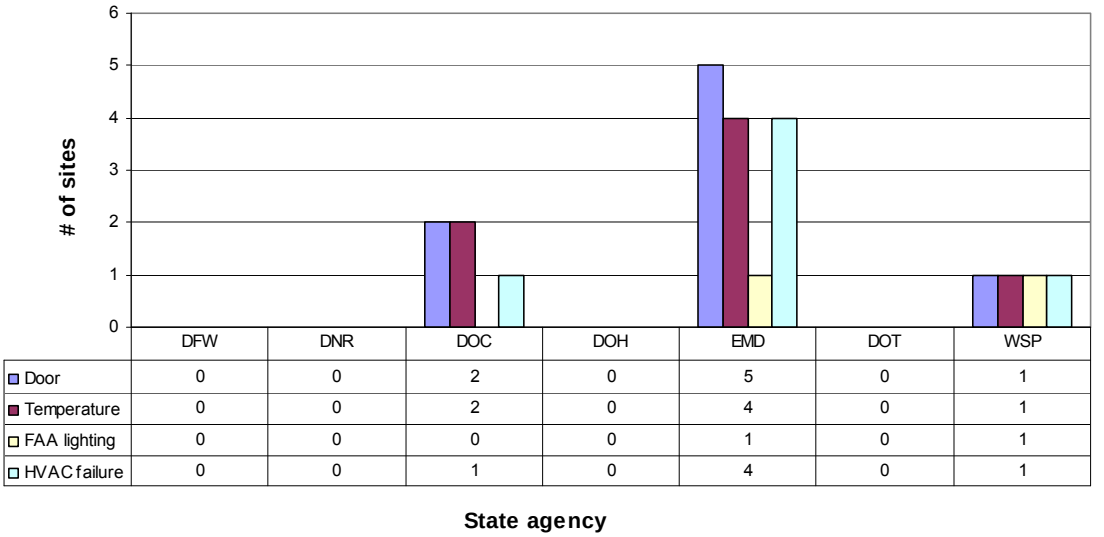
Figure 57 and Figure 58 show the number and type of elements monitored. Facility access (door), environmental conditions (temperature), operation of HVAC, and tower light operation were elements in the survey.



	1	2	3	4	5	6	7	8	9
Door	2	5	15	4	6	0	5	8	12
Temperature	0	1	19	4	6	0	0	7	3
FAA lighting	0	1	2	1	1	0	2	2	0
HVAC failure	0	0	14	1	6	0	0	1	3

Homeland Security region

Figure 57 Elements alarmed by Homeland Security regions



	DFW	DNR	DOC	DOH	EMD	DOT	WSP
Door	0	0	2	0	5	0	1
Temperature	0	0	2	0	4	0	1
FAA lighting	0	0	0	0	1	0	1
HVAC failure	0	0	1	0	4	0	1

State agency

Figure 58 Elements alarmed by state agencies

Inter-site Communications

Inter-site communications systems are used to interconnect all radio sites and communications centers. Several technologies are employed to provide these connections. Table 33 shows the type of connections reported for various entities throughout the state, based on the data reported by the 19 counties responding.

Table 33 Inter-site communications used within counties/areas

County	Analog Microwave	Digital Microwave	Fiber Optic	Radio Circuits	Terrestrial Circuits
Benton					Hanford Fire Department
Chelan		Rivercom		Rivercom	
Clallam				Port Angeles Police Department	
Clark		Clark Regional Emergency Services Agency			
Columbia				Columbia County Sheriff's Office	Columbia County Sheriff's Office
Ferry				Ferry County Emergency Management	
Grays Harbor		Grays Harbor E9-1-1 Communications		Aberdeen Police Department, Ocean Shores Police	
King		Bothell Police Department			
Kitsap	Bremerton Police Department	Kitsap County Central Communications (9-1-1)			
Kittitas		Kittitas County 9-1-1	Kittitas County 9-1-1		
Pacific		Pacific County Communications			Pacific County Fire District 1
Pend Oreille	Pend Oreille County Department of Emergency Management				
Pierce		City of Tacoma, Pierce County	City of Tacoma	Puyallup City Communications, Fife Police Department	
Skagit		Mount Vernon Fire Department			
Spokane	Spokane County Communications	Spokane County Communications			Cheney Police Department
Thurston		Capital Communications			Thurston County Fire Protection District 8
Walla Walla	Walla Walla Public Safety Communications				
Whatcom				What-Comm	
Yakima	City of Yakima, Yakima Fire Department				
Statewide	Washington State Department of Transportation, Department of Corrections, Department of Natural Resources			Washington State Department of Transportation	Department of Corrections
Statewide		Emergency Management Division, Military Department			
Statewide	Washington State Patrol				

Microwave Technology

Figure 59 and Figure 60 show the utilization of analog and digital microwave technology by Homeland Security regions and state agencies.

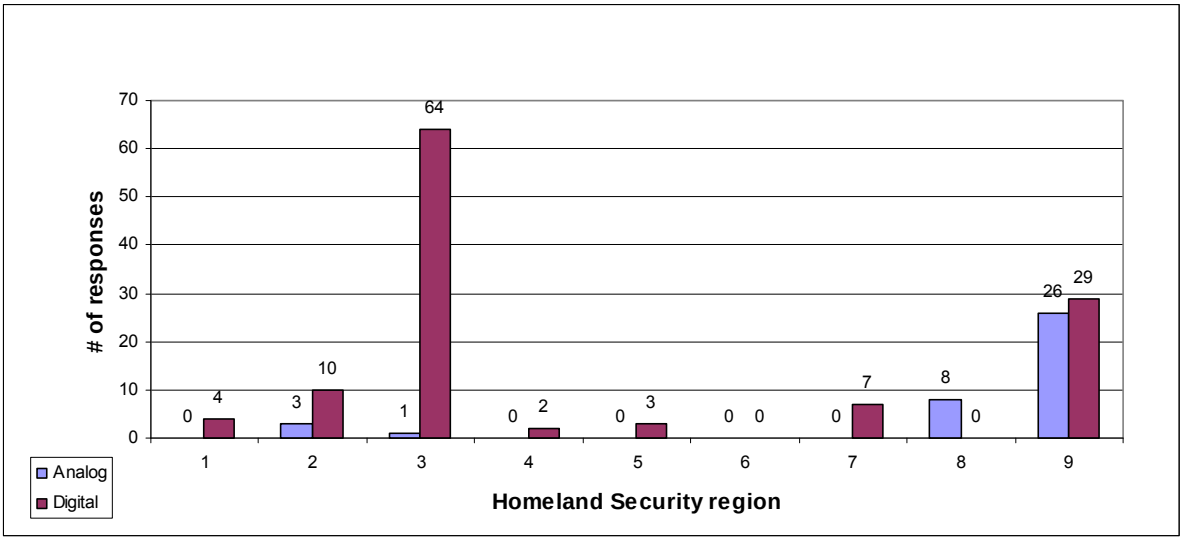


Figure 59 Microwave technology reported by Homeland Security regions

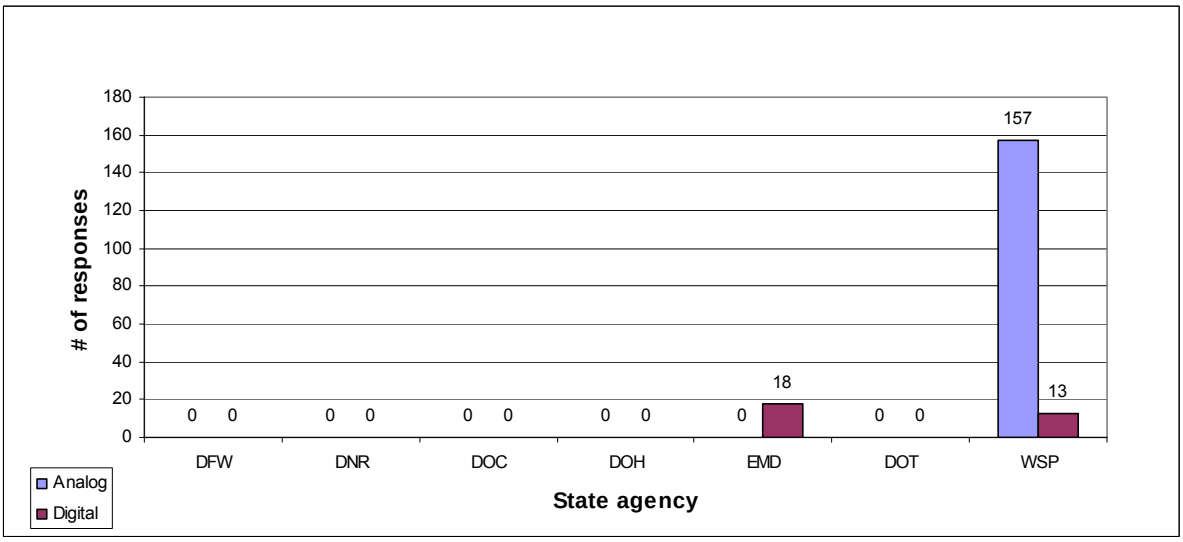


Figure 60 Microwave technology reported by state agencies

APPENDIX F PUBLIC AFFAIRS PLAN

Washington State Interoperability Executive Committee Outreach and Public Affairs Plan 2007/08

The Washington State Interoperability Executive Committee (SIEC) Outreach and Public Affairs Plan (OPA) 2007/08 is a stand alone plan included as an appendix to this Statewide Communications Interoperability Plan (SCIP) to add context and clarity to the strategic planning process.

The OPA is reprinted in its entirety.

Motorola Solutions, Inc., Ex1019, p. 241

Collaborative
Public Safety
Communications

Motorola Solutions, Inc., Ex1019, p. 242

Washington State Interoperability Executive Committee
Outreach and Public Affairs Plan
2007/08

August 16, 2007

Executive Summary

Interoperability in Washington State

Washington State is no stranger to natural disasters such as earthquakes, floods and volcanic eruptions, wild land fires, crimes or other emergency situations. Emergency responders at the state, local, and tribal levels are severely hampered in their ability to effectively respond in a coordinated manner to these kinds of emergencies because their radio communications systems are often incompatible.

The Washington State Interoperability Executive Committee (SIEC) was established in 2003 by the Washington State Legislature to ensure the coordination, planning and management of the state's considerable investment in radio communications that is essential for disaster preparedness, emergency management, and public safety. This will result in more cost-effective use of the state's resources and improve government services at all levels.

Trust, Awareness, Value and Partnerships

The SIEC Outreach and Public Affairs Plan is a one-year plan designed as part of a long-term effort. It is a work plan for helping us reach our stated goals and objectives. Proposed outreach activities include public meetings and workshops, interactive Web-based information, media and public awareness efforts, legislative outreach and collaborative activities with our partners and stakeholders. This level of strategic communication will help build trust, increase awareness, demonstrate value, and strengthen partnerships.

The intent is to initiate a communications process that is inclusive, proactive, educational, and successful. This document contains details of our communications goals, objectives, target audiences, key messages, strategies, and tactics for implementing and evaluating effective communications, as well as a proposed implementation schedule.

As a comprehensive outreach and public affairs plan, it will provide important support for the development of the Statewide Communications Interoperability Plan (SCIP) and for moving the state of Washington toward its goals of increased interoperability in public safety communications.

This plan is intended to be a flexible working document. Adjustments will likely be made which are reflective of changes in message, goals, budget and/or other needs as required. Routine reviews, as well as pre- and post-legislative session reviews, are recommended. All suggestions and comments are welcome and appreciated. Outreach and public affairs efforts will also be tracked and evaluated for effectiveness, in order to gauge progress, to make changes along the way and to provide a foundation for the next outreach and public affairs plan.

The Challenge

A lack of emergency response communications interoperability continues to affect incident response. The need to communicate or share critical voice and data information among

jurisdictions and disciplines during emergency response situations is critical. According to the 2001 National Task Force on Interoperability Guide, contributing factors include:

- Incompatibility of aging communication equipment
- Limited and fragmented funding
- Limited and fragmented planning
- Lack of coordination and cooperation
- Limited and fragmented radio spectrum

SIEC Interoperability Vision and Goals

The SIEC adopted a vision and seven goals for improving interoperability and directly address the contributing factors. The SIEC vision and goals are the primary drivers of our communications goals.

Vision: Public safety officials throughout Washington are able to communicate using interoperable technology in real time and on demand.

Goal 1: Establish statewide interoperability as a high priority for all stakeholders, including state, local, regional, tribal and federal agencies and entities.

Goal 2: Maximize the improvements in interoperability by institutionalizing collaborative approaches across the state based upon common priorities and consensus at the regional level.

Goal 3: Create an architecture approach which establishes a framework for interfacing between disparate systems, and promotes migration to new technologies in line with relevant standards platforms.

Goal 4: Migrate to a technology that provides state, local, regional, tribal, and federal systems with the level of interoperability that is appropriate for their missions.

Goal 5: Optimize the use of all funding sources at the state, local, regional, tribal, and federal levels.

Goal 6: Maximize the use of “best current practices” approaches to improving interoperability.

Goal 7: Create a statewide backbone communications capability that would provide connectivity for state, local, regional and tribal groups.

Outreach and Public Affairs Goal

Our outreach and public affairs goal is the top-level result that this plan is striving for. What do we want this plan to help accomplish?

- Create an environment of collaboration, unity and action around common interoperability goals among partners, stakeholders, influencers, and policy makers.

Target Audiences

This is the list of individuals, groups and organizations that we want, and need, to hear our messages, and why. Attention will be paid to the distinctions – within certain audiences – between operational and user groups, technical and support groups, and policy and decision makers.

State Interoperability Executive Committee (SIEC)
SIEC members are in the unique position of being both a target audience requiring information, and ambassadors of information and messages regarding interoperability. Their influence and ability to share information reaches deep into the organizations and affiliations that they represent on the Committee. They can represent the SIEC at local, tribal, regional, and statewide meetings and conferences, as well as in the legislative process, explaining common goals and objectives, and demonstrating leadership and support through advocacy.

Emergency Responders
Emergency responders are keenly aware of the repercussions of a lack of interoperability. This audience includes the emergency management community. In an emergency situation, the public and the responders may be put at risk by a need to manage multiple radios or cell phones in order to coordinate assistance or call for help.

City and County Governments
City and county governments own and operate emergency communications infrastructure. They also employ a large number of first responders and public service workers.

Tribal Governments
Tribal governments will be informed and involved in the state's plans for improving interoperability in Washington. Washington State is home to 29 federally recognized tribal nations, many in high risk areas and with first responders and communications resources of their own.

State Agency System Users
State agencies with a need for interoperable communications are an important audience, as end users of the systems. It is important that mechanisms exist to ensure communication of the work on this issue with agency executive teams, where appropriate, and managers and staff who are responsible for their radio communications. Many state agencies also have direct influence with a set of stakeholders who will benefit from this information. As well, it is important that the communications directors and public information staff for state agencies are kept informed of work and progress toward the state's interoperability goals.

State Legislature
As policy makers, state legislators must be regularly informed of project goals, needs, milestones, and outcomes, in order to make fully informed decisions. They must be prepared to educate and inform their constituents and colleagues about the importance of an interoperable public safety communications system. They must also be educated about the level of interoperability within their own communities. Because so many decisions regarding interoperability turn on the actions of this target audience, a separate legislative strategy is included in this communications plan.

Federal Government

There are a number of federal agencies involved in interoperability efforts, i.e., the Federal Communications Commission (FCC), Department of Homeland Security (DHS), Federal Bureau of Investigation (FBI), Department of Justice (DOJ), Department of Defense (DOD) military bases, Department of Energy (DOE), Federal Emergency Management Agency (FEMA) and Border Patrol (CBP). The SIEC and staff will work closely with these partner agencies on matters relating to frequency management, coordination, grants, the 2010 Olympic Games in Vancouver B.C., and other multi-agency and multi-jurisdictional issues.

Critical Infrastructure Providers
Critical infrastructures are those physical and cyber-based systems essential to the minimum operations of the economy and government. For our purposes, they include, but are not limited to, energy, transportation, water systems, and certain other governmental and private entities.

People of Washington State
The common goals of radio interoperability will benefit the health and safety of the people, families, and businesses of Washington State. This makes the public an important influencer in local and state decision-making.

Editorial Media
Outreach to 'editorial media' as a target audience is different from 'media relations' as a tool for reaching our target audiences. Print, broadcast, television and Web editorialists make decisions about whether to endorse issues and individuals every day. A key to success will be to get the topic of interoperable emergency radio communications elevated and discussed in a positive, proactive manner.

Communications Equipment Vendors and Manufacturers
Vendors, equipment manufacturers, and other private sector entities play a critical role in the design and sustaining communications infrastructure.

Key Messages

Key messages should be concise, conversational, factual, and memorable. These are the succinct points that will be woven into every interview, news release, publication, and interaction with our target audiences and the media on the subject of interoperability. Key messages are the main points that are most important to communicate to our target audiences. The messages below are core messages that may be subtly adjusted and/or expanded upon for various target audiences.

- Our emergency responders cannot always talk to each other in a crisis situation. Radio communications systems are often incompatible and emergency responders at the state, local and tribal levels must be able to respond in a coordinated manner to emergencies, such as earthquakes, floods, volcanic eruptions, wild land fires, crimes, and other situations.
- We can solve this problem with a collaborative approach, saving time, money and most importantly – lives. Collaborating on system design and development will enable

emergency responders to provide more services, more efficiently, increase interoperability, and reduce long-term costs.

- This is an investment in public safety. Improving public safety radio communications will have a long-term impact on the health, safety and well-being of every person, family, and business in Washington State.

Strategies and Tactics

Deliver the story

- Coordinate communications efforts with SIEC staff and members
- Initiate strategic legislative outreach
- Expand the visibility of interoperability issues
- Educate and involve target audiences in advancing broader knowledge of interoperability issues and priorities
- Develop and provide communications messages and materials for key spokespeople and target audiences
- Expand access to key information
- Maximize SIEC Web site

Show SIEC commitment and contribution

- Communicate SIEC priorities to target audiences
- Demonstrate SIEC commitment to improving public safety radio communications
- Strengthen understanding and support for the importance of improving public safety radio communications
- Look for and develop opportunities to highlight context and implications of past adverse interoperability situations
- Share best practices
- Publicize plans and processes

Enhance and motivate traditional and non-traditional messengers

- Look for partnership opportunities and identify allies that will help reach out and educate a broader audience
- Work with existing partners and target audiences to extend the reach of messages
- Create SIEC message and media teams
- Create supporting materials and documentation for outreach purposes
- Facilitate local, regional and statewide outreach opportunities
- Encourage collaboration and consensus

Run aggressive earned media program

- Develop press kit with supporting materials and other resources
- Initiate and improve media relationships to help with message and issue dissemination
- Initiate outreach to editorial media
- Target the “talkers”
- Create pro-active earned media
- Engage stakeholders as messengers with the media
- Utilize existing research, information and materials
- Utilize vital new information and studies

Prepare for the unexpected

- Develop a crisis communications plan for the SIEC and staff

07/08 SIEC Outreach and Public Affairs Plan

Detailed Work Plan and Timeline

STRATEGY 1: Deliver the story.

- Coordinate communications efforts with SIEC staff and members
- Initiate strategic legislative outreach
- Expand the visibility of interoperability issues
- Educate and involve target audiences in advancing broader knowledge of interoperability issues and priorities
- Develop and provide communications messages and materials for key spokespeople and target audiences
- Expand access to key information
- Maximize SIEC Web site

Tactic	Components/Key Information	Target Date	Progress
a. Establish weekly SIEC coordinating meetings		Ongoing	
b. Establish SIEC staff roles and responsibilities		Ongoing	
c. Develop legislative strategy and timeline		Complete	Recommended strategy outlined (Appendix A)
d. Develop interoperability case studies			
e. Identify allies to collaborate with on communications goals and messaging		Sept. 1	
f. Establish stakeholder ListServe		Sept. 1, 2007	In process through DIS
g. Audit SIEC Web site	Recommend Web updates Implement Web upgrades	Complete Upgrade timeline in development	Web audit complete with recommendations (Appendix B).
h. Update and maintain Web site	Note: Promote resource library of local, state and federal information		
i. Incorporate key messages into all publications, outreach communications and Web information		Ongoing	
j. Develop proactive calendar of regular informal 1:1 discussions with key reporters to provide			

information and messages			
k. Update and expand targeted media lists			
l. Localize national public safety communications stories with local media to develop coverage that raises awareness			

STRATEGY 2: Show SIEC commitment and contribution.

- Communicate SIEC priorities to target audiences
- Demonstrate SIEC commitment to improving public safety radio communications
- Strengthen understanding and support for the importance of improving public safety radio communications
- Look for and develop opportunities to highlight context and implications of past adverse interoperability situations
- Share best practices
- Publicize plans and processes

Tactic	Components/Information	Target Date	Progress
a. Initiate post SIEC meeting outreach	Bi-monthly ListServe messages with meeting overview, relevant news clips and other interoperability news and information	August 2007	
b. Monitor interoperability news coverage for ListServe use			
c. Conduct bi-annual listening sessions with target audiences	Spokane, Tri-Cities, Tacoma, Everett	November 2007 May 2008	
d. Host an annual statewide interoperability conference	Goals to encourage interoperability, discuss spectrum management and interoperability strategies. Presentations and panels with local, state and federal reps. Include a "state of interoperability" keynote. Seek federal co-sponsor.	May 2008	
e. Involve target audiences in SCIP development		Ongoing with multiple deadlines (Appendix C)	Occurring through 1:1 contacts, meeting presentations and conversations, and via email and Web. Statewide SCIP meeting to be held August 22, 2007.
f. Involve target audiences in PSIC		Ongoing with multiple deadlines	Occurring through 1:1 contacts, meeting presentations

process		(Appendix C)	and conversations, Q&A conference calls and via email and Web. Statewide investment justification meeting to be held September 12 or 13, 2007.
g. Develop and share fact sheets, brochures and/or talking points on interoperability issues to share with target audiences			

STRATEGY 3: Enhance and motivate traditional and non-traditional messengers.

- Look for partnership opportunities and identify allies that will help reach out and educate a broader audience
- Work with existing partners and target audiences to extend the reach of messages
- Create SIEC message and media teams
- Create supporting materials and documentation for outreach purposes
- Facilitate local, regional and statewide outreach opportunities
- Encourage collaboration and consensus

Tactic	Components/Information	Target Date	Progress
a. Participate in Association conferences and workshops	i.e., WASPC, AWC, WSAC, WSCFF, APCO-WA, WSEMA, etc	Ongoing	SIEC staff have attended WASPC, AWC, APCO-WA WSEMA – August 2007 WSAC – November 2007
b. Develop conference exhibitor display and supporting materials		WSAC – November 2007	
c. Participate in regular organization meetings	i.e., E911 Advisory Committee, School Safety Committee, Fire Protection Policy Board, Fire Defense Board, etc	Ongoing	Ongoing
d. Develop opportunities for articles in audience-specific publications			
e. Work with local stakeholders to host regional media interoperability open houses	Targeted to public safety reporters for background and education		
f. Expand opportunities for target audiences to subscribe to SIEC ListServe			
g. Share vital information and studies with target audiences	Via Web, ListServe or other appropriate mechanism		
h. Develop message and media teams	Speakers to be prepared to speak with all target audiences		

i. Develop local speaking opportunities for message and media teams			

STRATEGY 4: Run aggressive earned media program.

- Develop press kit with supporting materials and other resources
- Initiate and improve media relationships to help with message and issue dissemination
- Initiate outreach to editorial media
- Target the "talkers"
- Create pro-active earned media
- Engage stakeholders as messengers with the media
- Utilize existing research, information and materials
- Utilize vital new information and studies

Tactic	Components/Information	Target Date	Progress
a. Develop press kit with supporting materials		Sept. 1, 2007	
b. Initiate and maintain media relationships	Distribute press kits upon availability	Ongoing	
c. Initiate outreach to editorial media to create proactive earned media	Distribute press kits upon availability	Ongoing	
d. Target talk radio to create proactive earned media	Distribute press kits upon availability	Ongoing	
e. Engage stakeholders as messengers		Ongoing	
f. Utilize existing research, information and materials to bolster the case for collaborative public safety communications advances	For press kits, outreach efforts and on the SIEC Web		
g. Utilize vital new information and studies to bolster the case for collaborative public safety communications advances	For press kits, outreach efforts and on the SIEC Web		

STRATEGY 5: Prepare for the unexpected.

- Develop a crisis communications plan for the SIEC and staff

Tactic	Components/Information	Target Date	Progress

a. Develop crisis communications plan	To include media plan for editorial and news response as well as for breaking news	Oct. 1, 2007	

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Evaluation

Statement of Purpose and Suggested Measures

To evaluate any communications and public education program requires performance measures which are based on the intended goal(s). The following performance measures answer the four questions for "Assessing Your Performance Measures" published by the Governor's GMAP Office.

The link between our outreach efforts and increased collaboration among stakeholders is not easily measurable without establishing a baseline through quantitative research. Our outreach efforts address behavior change, as opposed to direct sales or similar correlation.

Therefore, the outreach plan will be measured using a variety of criteria appropriate to the specific efforts and objectives. Appropriate measures include: measures of response and of effort.

EVALUATIVE STRATEGY 1: Measures of Response Establish methods for tracking the following measures of response.			
Tactic	Components/Information	Target Date	Progress
Stakeholder Calls for Information		August 31, 2007	
Media Calls for Information		August 31, 2007	
Media Mentions		August 31, 2007	
Public Calls for Information		August 31, 2007	
Number of Hits to SIEC Web Page		August 31, 2007	
Requests for SIEC Information		August 31, 2007	
Questions and Contacts Received via Web Page E-Mail		August 31, 2007	

EVALUATIVE STRATEGY 2: Measures of Effort Establish methods for tracking the following measures of effort.			
Tactic	Components/Information	Target Date	Progress
Number of Attendees at Hosted Events, Conferences or Meetings		August 31, 2007	
Number of Individual or Small Group Stakeholder Meetings Attended		August 31, 2007	
Number of Large Group or Conference Events Attended		August 31, 2007	
SIEC Materials Delivered		August 31, 2007	
Mass Outreach Efforts through ListServe or Other Means		August 31, 2007	

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APPENDIX A

SIEC Legislative Strategy Recommendations

July 2007

These recommendations are the result of assessing what we learned during past legislative sessions related to the SIEC and interoperability efforts, and to apply that information to future legislative outreach.

The goals for interactions with legislators are to ensure that they understand ways to help their constituents and colleagues understand the importance of interoperability; how to determine whether public safety communications and interoperability are adequate within their communities; how much it will cost and how it will ultimately save money; how their community can achieve interoperability; where they can learn more; and how the state and local communities can work together toward common goals.

Strategies

Develop Funding and Policy Support

- Follow policy direction from state leadership
- Coordinate SIEC legislative outreach
- Use coordinated, collaborative key messages
- Involve stakeholders and partners as messengers
- Expand efforts to educate and develop champions with:
    - ✓ House and Senate leadership
    - ✓ House Public Safety Committee members and staff
    - ✓ House Technology & Energy Committee members and staff
    - ✓ House Appropriations Committee members and staff
    - ✓ Senate Government Operations Committee members and staff
    - ✓ Senate Water, Energy and Telecommunications Committee members and staff
    - ✓ Senate Ways & Means Committee members and staff
    - ✓ Congressional delegation and staff
- Conduct education and outreach efforts in the interim
- Develop clear, concise, compelling leave-behind materials on interoperability

Develop Long-Term Funding Strategy

- Follow policy direction from state leadership
- Coordinate funding strategy development with stakeholders and partners

What tools do we have to support our legislative efforts?

- SIEC leadership and members
- SIEC staff
- Stakeholders and partners
- Hearing testimony

- Legislative staff meetings
- Legislator meetings
- Committee Days
- Media (news coverage, opinion editorials, letters)
- Interoperability 'Lobby Day'
- Email/telephone outreach

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07/08 SIEC Legislative Strategy Recommendations

Detailed Work Plan and Timeline

LEG. STRATEGY: Develop Funding and Policy Support

- Follow policy direction from state leadership
- Coordinate SIEC legislative goals and outreach
- Use coordinated, collaborative key messages
- Involve stakeholders and partners as messengers
- Expand efforts to educate and develop champions within:
  - ✓ House and Senate leadership
  - ✓ House Public Safety Committee members and staff
  - ✓ House Technology & Energy Committee members and staff
  - ✓ House Appropriations Committee members and staff
  - ✓ Senate Government Operations Committee members and staff
  - ✓ Senate Water, Energy and Telecommunications Committee members and staff
  - ✓ Senate Ways & Means Committee members and staff
  - ✓ Congressional delegation and staff
- Conduct education and outreach efforts in the interim
- Develop clear, concise, compelling leave-behind materials on interoperability

Tactic	Components/Information	Target Date	Progress
a. Establish pre-session meeting among SIEC leadership, staff, policy and legislative liaisons to establish goals		Sept. 1	
b. Establish weekly meetings during session among staff and legislative liaisons		Sept. 1	
c. Initiate information sharing mechanisms for SIEC leadership, staff, policy and legislative liaisons		Prior to pre-session meeting	
d. Initiate and maintain relationships within legislative audience as noted above		Ongoing	
e. Conduct availability-based informal meetings		Ongoing	
f. Develop priority contact list		At pre-session meeting	
g. Monitor Committee schedules		Session	

and coordinate SIEC and stakeholder participation as needed			
h. Include legislative audience on ListServe communications		Ongoing	
i. Include legislative audience in informational distributions regarding SCIP development		Ongoing	
j. Include legislative audience in informational distributions regarding PSIC development		Ongoing	
k. Create opportunities for legislative audience to view local and state interoperability successes		Session and Interim	
l. Coordinate opportunities for legislative audience to view statewide interoperability successes		Session and Interim	
m. Coordinate opportunities during Committee Days		Aug. 27-28, 2007	
n. Coordinate interoperability 'Lobby Day'		Session and Interim	
o. Coordinate email and telephone support as necessary		As Needed	

APPENDIX B

SIEC Web Site Review and Recommendations

June 2007

Review

The objective of this preliminary review of the Washington State Interoperability Executive Committee (SIEC) Web site is to assess the existing Web presence for the purpose of improving message communication and audience usage by determining its weaknesses and strengths. The areas reviewed included design, content and navigation, specifically the following:

- Visibility
- Content
- Site Navigation

This review of the Web site is not a technical audit. An audit is an intensive review and analysis of the usability of a Web site. The outcome is used to enhance its technical structure, accessibility, performance and business delivery. Areas of review might include the following:

- Load Speed
- Functionality
- Web Site Traffic

Observations and Recommendations

Visibility

OBSERVATIONS

The SIEC Web page is hosted and supported by the state Department of Information Services (DIS). Presently, the URL (www.siec.wa.gov) directs the user to the main page of the state Information Services Board (ISB), which is a state agency responsible for IT planning, acquisitions, policies and standards for state agency IT projects as required by Washington's investment and portfolio management policies. In order to locate information about the SIEC, the user would need to know that it is a sub-committee of the ISB, or spend time searching manually. When using the "Ask George" search engine on the site, only SIEC sub-pages appear on the first page of results.

RECOMMENDATIONS

- At a minimum, www.siec.wa.gov should direct the user to the main SIEC page
- Ideally, the SIEC should appear as a stand-alone site with direct reciprocal links with ISB pages
- Updating meta tags would increase search engine success
- Each page should have a title tag with appropriate descriptive information
- Develop a link-sharing plan with partners and stakeholders

Content

The question of why we have an SIEC Web site should be addressed. Presently, the site is a source of relatively static information. The subsequent navigation recommendations address potential content changes and/or additions. There are occasional spelling and grammatical errors within the content as well.

RECOMMENDATIONS

Develop SIEC goals and strategies for the Web site

- Study the SIEC vision, mission and outreach/public affairs goals
- Determine the primary audience for the Web site
- Determine how the site should support our mission
- Determine our two or three most important goals for the site
- What do we want the audience to think or do after having visited the site? Does the site have a `clear call to action'?
- What Web-related strategies can we use to achieve those goals?
- How will we measure the success of our site?
- How will we adequately maintain the finished site?

- Survey partners and stakeholders for their views on site content
- Ensure all pages are free of spelling and grammatical errors

Site Navigation

OBSERVATIONS

Current navigation does not encompass or address all of the work and issues of the SIEC.

RECOMMENDATIONS

Suggested navigation for updated SIEC Web site is below:

- Home
  - Message from the Governor
- About SIEC
  - Vision and Mission
    - Duties and Responsibilities of the SIEC
    - Specific Milestones
  - Background
    - Link to Enabling Legislation
  - SIEC Work Groups
    - SIEC Advisory Working Group
    - SIEC Advisory Funding Enterprise (SAFE) Working Group?
    - SIEC Technical and Frequency Coordination Working Group?
  - Technology Clearinghouse
- Committee Members
- Committee Meetings
- News Room
  - NPSTC Events Calendar
- Grant Information
- FAQS
- Document Library
- Links
  - Other states' SIECs
  - DHS

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    - APCO

- Subscribe to listserv
- Contact Us
    - To include all SIEC leadership, members and staff

Right Navigation
- Hot News
- Next SIEC Meeting
- Next SAW Meeting

Footer Navigation
- Home
- Contact Us
- Privacy Notice
- Site Map

APPENDIX C

PSIC/SCIP Internal Timeline

Updated: July 31, 2007

Jul 23-Aug 14	Complete Draft SCIP for Release to Local Planners
Jul 30	WMD and EMD SCIP Sections Due [SOP/NIMS, Training and Exercises, Usage]
Aug 3	WSP Technical Sections Due
Aug 8	Pre-Planning Draft to SIEC and SAW
Aug 14	SAW Meeting to Scrub Pre-Planning Draft
Aug 14	Distribute SCIP Draft for Pre-Workshop Review
Aug 16	SIEC Meeting: SCIP Update
Aug 18	State Must Submit Short Application for PSIC Funds
Aug 22	Statewide Workshop for SCIP
Aug 24	SCIP Comments Due
Aug 28-29	ICTAP Workshop w/SAW
Sept 7	Distribute Final Draft SCIP for Review
Sept 13	Statewide Workshop for Investment Justifications
Sept 14	Begin Writing Investment Justifications
Sept 18	Final SCIP Comments Due
Sept 20	Investment Justifications Finished
Sept 21	SAW Review of SCIP
Sept 24	Peer/Internal Review of Investment Justifications with Draft SCIP
Sept 24	Final SCIP to SIEC for Review and Approval
Sept 25	Admin Review of SCIP
Sept 28	DHS to Make PSIC Awards – Funds Delivered in March 2008
Sept 30	PSIC Draft Investment Justifications and 5% Planning Requests Due
Sept 30	Mid-Term Review of SCIP
Oct 1	Final SCIP to DSEG for Review and Approval
Oct 10	Final SCIP to Governor for Review and Approval
Nov 1	PSIC Investment Justifications Due
Nov 1	SCIP Due

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APPENDIX G DRAFT SAFECOM WHITE PAPER

Statewide Interoperability Coordinator: A Key to Success in Developing and Implementing Statewide Interoperability, April 2007

The Draft SAFECOM White Paper begins on the next page. The remainder of this page is left intentionally blank.

Office for Interoperability and Compatibility
U.S. Department of Homeland Security

Homeland Security

Statewide Interoperability Coordinator: A Key to Success in Developing and Implementing Statewide Interoperability

April 2007

DRAFT

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Executive Summary

The primary barrier to interoperability is not a lack of technology or communications systems, as many believe. The main obstacle is insufficient coordination between state agencies, localities within the same region, and emergency response agencies within the same jurisdiction.

It has become increasingly clear to the emergency response community that one organization alone cannot solve the riddle of communications and interoperability. The solution requires a partnership among local, tribal, state, and federal emergency response organizations and industries. An effective interoperable communications effort will require full-time coordination, and a clear, compelling statewide strategy, focused on increasing the effectiveness of emergency response across all related organizations and jurisdictions.

This paper outlines the importance of a full-time Interoperability Coordinator position for every state. It discusses the critical role this position would play in developing and implementing an effective statewide interoperability solution.

Background

According to Section I.C.5 of the 2006 Homeland Security Grant Program, all states are required to develop and adopt statewide communications interoperability plans by November, 2007. To assist in this process and to ensure that all states develop strong, practitioner-driven plans, SAFECOM developed criteria of essential components to be included in a statewide plan. Put together with input from local and state emergency response practitioners, the criteria help ensure the development of statewide plans that meet the needs of end users. The criteria were released as part of the Department of Homeland Security (DHS) 2007 Homeland Security Grant Program.

The criteria are divided into sections that match the lanes of the communications Interoperability Continuum. The SAFECOM program designed the Interoperability Continuum to help the emergency response community, and local, tribal, state, and federal policy makers, address critical elements for success as they plan and implement interoperability solutions. These include governance, standard operating procedures (SOPs), technology, training and exercises, and usage. [74] Five additional areas of the criteria are: background and preliminary steps, strategy, methodology, funding, and implementation.

Section 1.3 of the Statewide Planning Criteria states that: “DHS expects that each state will have a full-time Interoperability Coordinator. The coordinator should not represent any one particular agency and should not have to balance the coordinator duties with other responsibilities.”[75]

[74] SAFECOM Continuum may be found at www.safecomprogram.gov

The statewide planning process, including the documenting and implementing of statewide plans, greatly enhances the safety and security of our communities. Each state has ownership over its statewide plan, and is ultimately responsible for its relevance and success. Each statewide plan will be as unique as each state or territory.

Many states already have a single point of contact designated as the person responsible for managing the statewide planning process. However, in many cases this is not a full-time, paid position and the point of contact has responsibilities for other duties. For states to undertake the creation of optimal interoperability solutions, therefore, a full-time independent Interoperability Coordinator position is needed.

Responsibilities and Benefits of the Interoperability Coordinator

The primary responsibilities of the Interoperability Coordinator are to:

1. Oversee the development of a bottom-up, practitioner-driven interoperability strategy.

2. Establish and maintain a governance structure.

3. Ensure the development and implementation of the statewide communications interoperability plan.

4. Coordinate interoperability communications investments for the state.

In addition, other responsibilities may also include (but are not limited to):

- Serve as liaison among the local, tribal, and regional emergency response communities, and state agencies and officials, and the Federal Government.

- Revise the statewide plan as needed.[76]

- Ensure proper representation within the interoperability governance structure.

- Develop and measure long-term and annual performance measures to show progress towards improved interoperability.

75 The Statewide Planning Criteria can be viewed on the SAFECOM Web site at: https://www.safecomprogram.gov/SAFECOM/statewideplanning.

[76] Under the DHS 2006 Homeland Security Grant Program, states will need to submit statewide plans at least every three years.

- Serve as liaison between the communications interoperability committee and other groups.

- Spearhead funding support for interoperability efforts.

An Interoperability Coordinator will improve the prospects of achieving voice and data communications interoperability, no matter where the state is in developing or implementing its statewide plan. For states that are just beginning to develop their statewide plans, the Interoperability Coordinator will play a critical role in establishing a practitioner-driven governance structure—the first step in the development of these plans. As the process shifts from planning to actual execution, ambiguity in leadership and accountability could arise. The Interoperability Coordinator has the responsibility for putting the plan into effect and for resolving such ambiguity.

Additional benefits of an Interoperability Coordinator can be to:

- Serve as neutral broker among all stakeholders.

- Encourage the implementation of voice and data interoperability standards.

- Designate 100 percent of his or her time to coordination efforts.

- Obtain funding to ensure program sustainability.

- Serve as an executive champion for the state's interoperability efforts.

A Best-Practice Model

Virginia was the first state or commonwealth in the nation to adopt a locally driven strategic plan for enhancing voice and data communications interoperability. Today Virginia is viewed as a best-practice model to assist other states with their interoperability planning efforts.

Virginia attributes its success to three main factors that created a favorable interoperability environment:

1. A full-time interoperability coordinator .
2. A solid governance structure.
3. A statewide strategy and vision for communications interoperability.

Former Governor Mark Warner created the position of the Commonwealth Interoperability Coordinator (CIC)[77], with the understanding that the responsibility of managing the Commonwealth's statewide planning process is critical and complex. The Coordinator is responsible for coordinating and managing the state's interoperability effort. This position, originally part of the Office of the Secretary of Public Safety, was recently moved to the Governor's Office of Commonwealth Preparedness. This transition increased the public profile of interoperability efforts, and afforded the Coordinator more direct access to leadership across all levels of government.

Virginia's experience demonstrates the importance of making the interoperability coordinator a full-time, neutral broker and locating the position at a level that enables the coordinator to work with leadership in all agencies.

Funding

According to the 2007 State Homeland Security Program (SHSP), states may use 15 percent of the SHSP grant funds to fund the position of statewide Interoperability Coordinator.[78] In addition, funding opportunities may be available through the Public Safety Interoperable Communications (PSIC) Grant Program.

In most cases, states will need to make an initial financial investment to create a full-time, statewide Interoperability Coordinator. However, as demonstrated by Virginia's Interoperability Coordinator, this position can pay for itself many times over through the leadership and coordination that it provides.

[77] This position was initially supported with funding from the National Institute of Justice's CommTech Program and the Department of Homeland Security's SAFECOM program. To learn more about interoperability in Virginia, visit http://www.interoperability.virginia.gov/index.html.

[78] Refer to SHSP Section C.6 Personnel (page 46), and Chapter III, Section E.6 Personnel (page 36), for guidance. http://www.ojp.usdoj.gov/odp/docs/fy07_hsgp_guidance.pdf