ARIZONA

STATEWIDE COMMUNICATIONS INTEROPERABILITY PLAN (SCIP)

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APPROVAL DRAFT

Public Safety Communications Advisory Commission (PSCC)

2010

Distribution is limited to the United States Department of Homeland Security and those entities authorized by the State of Arizona and involved in the SCIP development. The Point of Contact (POC) for this document is the Public Safety Interoperable Communications (PSIC) Office in the Arizona Government Information Technology Agency (GITA). Current contact information for the PSIC Office can be found at www.azgita.gov/psic.

Record of Change

Change No.	Date	Description	Signature
000	Nov. 28, 2007	SCIP Version 1.0, approved by PSCC	
001	Jan. 19, 2010	2010 SCIP	

EXECUTIVE OVERVIEW

The Arizona Statewide Communications Interoperability Plan (SCIP) serves as a reference for public safety officials by describing the status of interoperable communications throughout Arizona and by documenting the specific goals and objectives Arizona has established to improve public safety communications.

Arizona developed the initial version of the SCIP in 2007, beginning with a high-level plan introduced at a Statewide Interoperability Executive Committee (SIEC) meeting in July 2007. After a series of meetings and forums, this SCIP was approved by the Public Safety Communications Advisory Commission (PSCC) in an open meeting on November 28, 2007. In July 2008, oversight of the PSCC transitioned to the Public Safety Interoperable Communications (PSIC) Office of the Arizona Government Information Technology Agency (GITA). The PSIC Office identified the need to update the SCIP in order to address known gaps in the Plan and to document updated approaches to tackling statewide strategic communications initiatives. This updated version of the SCIP was approved by the PSCC in an open meeting on January 19, 2010.

The PSCC, SIEC, and this Plan encourage local participation integral to Arizona's strategic planning efforts in support of interoperable communications. This SCIP addresses the short- and long-term goals of the PSCC and SIEC, and contains the defined and actionable strategies required to implement the vision of interoperability that public safety and service agencies/organizations need in order to protect and serve the citizens of Arizona. The SCIP is divided into five sections:

1. **Introduction** – Introduces and defines the purpose of the Plan.
2. **Background** – Provides an overview of Arizona and its regions to set the context for the rest of the Plan. This overview includes summaries of major geographic, demographic, and infrastructure elements that impact interoperable communications across Arizona. The overview also describes Arizona's regional entities, including counties, tribes, Arizona Department of Homeland Security (AZDOHS) Homeland Security Regions, Urban Area Security Initiative (UASI) areas, and police, fire, and Emergency Medical Service (EMS) associations.
3. **Methodology** – Outlines the participatory methodology used to develop the SCIP. Cross-jurisdictional and cross-disciplinary involvement in the development and maintenance of this SCIP is achieved via several mechanisms:
    a. The PSCC and SIEC hold regular public meetings and workshops to discuss and make recommendations for advancing statewide communications interoperability.
    b. Standing workgroups of the PSCC and SIEC are tasked to address interoperability issues in detail.
    c. The PSIC Office supports all of these groups and receives recommendations from them regarding work plans related to the development of systems and strategies for providing interoperability for public safety communications.

   d. The PSIC Office meets regularly with its State agency partners and also supports a statewide Outreach Program providing regular and effective dialogue with Arizona public safety and service agencies/organizations.

4. **Current Statewide Assessment** -- In recent years, Arizona has commissioned and executed several studies to ascertain and document the current status of public safety communications statewide. These studies recognize successful endeavors that could be leveraged moving forward, and identify gaps hindering interoperability that need to be mitigated or rectified through future initiatives and planning efforts. This section synopsizes key findings from these assessments to describe the current status of Arizona's interoperable communications capabilities. Summaries of key findings are divided into five categories:
   a. Governance – the relationship of the various bodies in the interoperable communications governance structure, including the PSCC, SIEC, and the PSIC Office. Applicable Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs) are described.
   b. Standard Operating Procedures (SOPs) – the process for developing statewide SOPs, requirements for National Incident Management System (NIMS) compliance, and identifying current SOPs for interoperable communications.
   c. Technology – a summary of the shared systems currently in operation in Arizona, shared channels that are available for public safety use, and gateways and radio caches in Arizona available to enhance interoperability.
   d. Training & Exercises – guidelines for Arizona's training and exercise opportunities, including Communications Unit Leader (COML) training curriculum and credentialing procedures.
   e. Usage – information regarding the use of interoperable communications within Arizona generally assessed at a jurisdictional level rather than as an over-arching statewide process.
5. **Strategy** – lays out Arizona's strategy, both short-term and long-term, for improving interoperable communications by leveraging existing assets, agreements, and funding sources. Funding sources are identified, grant management guidelines are defined, and vision and mission statements for improving interoperability are introduced. Arizona's interoperability goals and objectives are defined, and linked to twelve strategic initiatives.

The SCIP is one of several coordinated blueprint planning efforts which provide the opportunity for all levels of government to come together and consolidate information regarding their communications needs, based on risk-benefit models projecting evolving future requirements. This Plan provides a mechanism for governments to identify shared issues and assess future common needs. Enhanced versions of this Plan look to include new objectives and possibilities for the future.

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1.0 INTRODUCTION

Before the Arizona (AZ) Public Safety Communications Advisory Commission (PSCC) was officially established, a group of individuals who believed Arizona should address interoperability as a statewide priority started meeting as an ad-hoc community of interest. In July 2004, the Governor and the Arizona State Legislature created the PSCC under Arizona statutes §41-1830.41 and §41-1830.42[1].

The newly legislated PSCC integrated the existing ad-hoc community of interest by creating the Statewide Interoperability Executive Committee (SIEC) as suggested by the September 11, 1996 report to the Federal Communications Commission (FCC) by the Public Safety Wireless Advisory Committee (PSWAC) that addressed best practices for providing interoperability among public safety entities. The Arizona SIEC is a five-member PSCC advisory committee representing a broad cross section of Arizona's public safety officials.

The 2001 and 2003 National Task Force on Interoperability characterized and documented the current state of communications systems and interoperability across the United States during times of crisis and the problems affecting public and private agencies responsible for responding to and mitigating such events. The identified problems included:

1. Incompatible and aging communications equipment
2. Limited and fragmented funding to support communications systems replacement or upgrades
3. Limited and fragmented communications system planning
4. Lack of or inadequate inter-agency coordination and cooperation
5. Inadequate coverage or reliability
6. Limited and fragmented radio spectrum availability.

While these findings have been identified previously and subsequently, acts of terror, violence, natural and other catastrophic events have continued to demonstrate, validate and drive home the need for a coordinated approach to facilitate the mitigation of these communications problems.

Beginning with a high-level plan introduced at the SIEC statewide meeting in July 2007, Arizona began developing the Statewide Communications Interoperability Plan (SCIP) to address these communications problems. Representatives of the Department of Homeland Security's Office of Emergency Communications/Interoperable Communications Technical Assistance Program (OEC/ICTAP) reviewed the plan and facilitated the meeting. After a series of meetings and forums, this SCIP was approved by the PSCC in an open meeting on November 28, 2007.

A.R.S. §41-3541 and §41-3542[2] transitioned oversight of the PSCC to the Public Safety Interoperable Communications (PSIC) Office of the Arizona Government Information Technology Agency (GITA). The PSIC Office identified the need to update the SCIP in order to address known gaps in the Plan and to document updated approaches to tackling statewide strategic communications initiatives. The update process began in July 2009, culminating in

[1] http://www.azgita.gov/psic/about/law.htm
[2] http://www.azgita.gov/psic/about/law.htm

this updated version of the SCIP, approved by the PSCC in an open meeting on January 19, 2010.

The SCIP sustains the momentum created by the PSCC and SIEC planning efforts by maintaining long-standing local, regional, tribal and State planning within the statewide process. The PSCC, SIEC, and this Plan encourage local participation integral to Arizona's strategic planning process. This SCIP contains the short- and long-term goals of the PSCC and SIEC. This SCIP therefore houses the defined and actionable strategies required to implement the vision of statewide access to the interoperability needed to protect and serve the citizens of Arizona.

Throughout this document, "public safety and service agencies/organizations" will be used to refer to police, fire, and Emergency Medical Service (EMS) agencies, as well as other municipal, county, state, tribal, and federal agencies performing public safety or public service activities. Arizona may also determine that select non-governmental organizations (NGOs) performing public safety and/or service activities are incorporated into this definition on an as-needed basis.

SCIP Point of Contact

Arizona has designated Lisa Dee Meyerson as the point of contact for this document within the PSIC Office. Ms. Meyerson also serves as the Statewide Interoperability Coordinator (SWIC).

For copies of this SCIP, and for questions, updates, deletions, or inclusions to this document, point of contact information is as follows:

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2.0 BACKGROUND

This section provides an overview of Arizona and its regions to set the context for the rest of the Plan. This overview includes summaries of major geographic, demographic, and infrastructure elements that impact interoperable communications across Arizona.

2.1 State Overview

2.1.1 Geography

Arizona, located in the southwestern United States, is bordered to the east by New Mexico, to the north by Utah, to the north and west by Nevada, to the west by California, and to the south by Mexico (see Figure 2.1). The 389 mile long Mexico border includes six international crossing stations located at Nogales, Douglas, Lukeville, Naco, Sasabe, and San Luis. Additionally, the northeast corner of Arizona is part of the "Four Corners" region, along with Colorado, New Mexico and Utah.

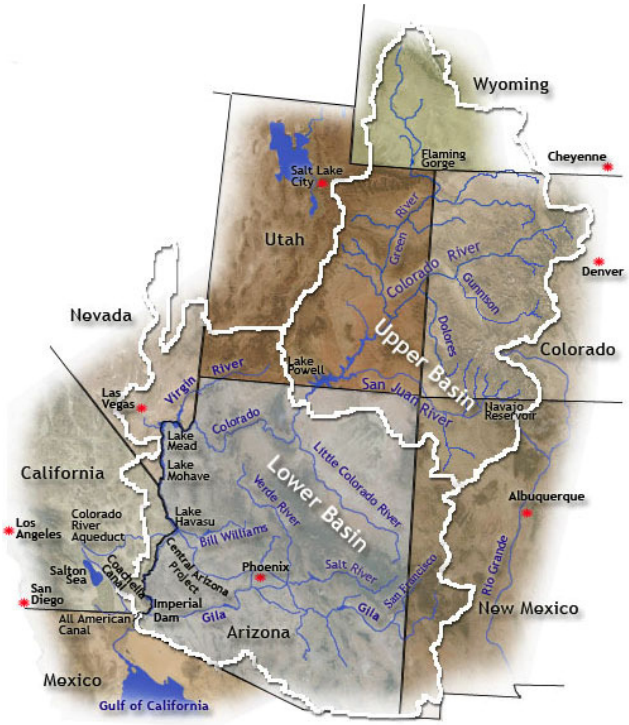
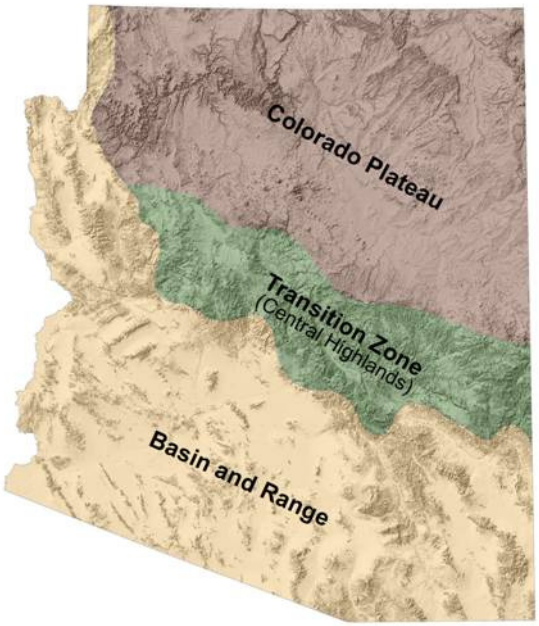


Figure 2.1: Arizona and Bordering States

Arizona measures approximately 400 miles in length, 310 miles in width, and has a total area of about 113,900 square miles, making it the sixth largest state in the United States. Arizona's water area is roughly 364 square miles, making it one of the driest states in the nation. The Colorado River meets the water and power needs of nearly 30 million people within its basin

states and adjoining areas, including Mexico. Arizona shares water resources in the Lower Basin with Nevada and California (see Figure 2.2).

Arizona is composed of three distinct physiographic provinces that impact the design and implementation of public safety communications networks across the state:



1. The Colorado Plateau is an area of flat-topped mesas, buttes and deeply incised canyons, with elevations ranging from 5,000 to 7,000 feet. It covers much of the northeastern area of Arizona.
2. The Basin and Range Province, with north-to-northwest-trending isolated mountain ranges rising abruptly from broad plain-like valleys or basins. Elevations range from near sea level in the desert areas to mountain ranges of 8,000 to 10,000 feet. This province covers most of the western and southern portions of Arizona.
3. The Transition Zone is a deeply dissected mountainous area between the two major provinces, characterized by small, isolated valleys or basins between the mountain blocks. This area is generally lower in elevation than the Plateau, with mountain ranges as high as the Plateau rim.

Figure 2.2: Physiographic Provinces of Arizona[3]

Each province has its own special set of requirements for protection, equipment, weather conditions, and environmental concerns.

2.1.2 Climate

Arizona's climate can be unforgiving, with winter low temperatures in higher elevations reaching -35° Fahrenheit (F) and summer high temperatures reaching over 120°F. Daily high to low temperatures can swing as widely as 60°F. The geographic realities detailed above, coupled with these severe climate concerns, make Arizona's overall environment challenging and unforgiving to public safety operations and communications alike.

2.1.3 Demographics

Arizona's population is growing rapidly, and Phoenix is one of the fastest-growing cities in the United States. 2008 population estimates put the statewide population of Arizona at over 6.5 million citizens. Estimates show that in 2009, Arizona will be home to 6.8 million people, with the Phoenix metropolitan area (Maricopa County) having a population of 4.1 million and Pima

[3] Fenneman, NM and DW Johnson, 1946, Physiographic divisions of the conterminous US: GIS cover

County exceeding 1 million residents. These two counties represent 75 percent of Arizona's population.

2.1.4 Land Ownership

Private land owners possess less than 20 percent of Arizona's landmass. Arizona is home to 22 Indian tribes[4] that occupy a combined landmass of approximately 25 percent (21 million acres) of Arizona's land. There is also a significant amount (more than 28 million acres) of federal land in Arizona, underlying the importance of including both federal and tribal participants in the interoperable communication solutions deployed in the state. Federal land in Arizona is managed in large part by the United States Bureau of Land Management (BLM), National Forest Service, National Park Service, or Department of Defense (DoD).

The key national military bases in Arizona are:

1. Fort Huachuca, home to the U.S. Army Intelligence Center and School
2. Luke Air Force Base, home of the 56th Fighter Wing (the only F-16 Fighter pilot training facility)
3. Davis-Monthan Air Force Base, home of the 355th Fighter Wing, whose primary mission is to train A-10 pilots and provide close support and forward air control to ground forces worldwide
4. Yuma Proving Grounds, where the DoD runs ordnance testing.

2.1.5 Critical Infrastructure

Arizona's critical infrastructure includes highways, bridges, international ports of entry, waterways, electric power plants (including nuclear facilities), airports, and telecommunications sites. Each of these are critical to supporting Arizona's standard of living and primary sources of income which include tourism, high-tech industries, defense industries, a rising number of retirement communities around the state, and the banking/finance sector.

The 389 mile long border with Mexico includes six international crossing stations located at Nogales-Mariposa, Douglas, Lukeville, Naco, Sasabe and San Luis. Nogales-Mariposa alone sees almost $19 billion in trade annually representing 89% of all surface mode trade between Arizona and Mexico.

Arizona has over 400 dams. Two federally-operated dams, Hoover Dam and Glen Canyon Dam are particularly noteworthy because each impacts the water supply and hydroelectric production of multi-state areas. Major reservoir storage systems are located on the Colorado, Salt, Verde, Gila, and Agua Fria Rivers. The Central Arizona Project is a 336-mile long system of aqueducts, tunnels, pumping plants and pipelines and is the largest single source of renewable water supplies in Arizona.

Arizona is also home to the largest nuclear power generation facility in the United States. The Palo Verde Nuclear Generating Station located about 55 miles west of central Phoenix has three units capable of generating nearly 4,000 megawatts of electricity.

[4] http://www.indianaffairs.state.az.us/tribes_of_arizona.asp

2.1.6 Known Natural Disaster Hazards

Based on data compiled from county Emergency Operations Center (EOC) surveys since 2002, wildland and other types of fires comprise a significant proportion of Arizona disasters. Arizona also experiences impactful slow-rising and flash flooding caused by monsoons and microbursts. Although portions of the state lie in proximity to known fault lines, no earthquake in recorded history has caused deaths or injuries in Arizona.

2.2 Regions/Jurisdictions

The following sections describe Arizona's regional divisions including counties, tribes, Arizona Department of Homeland Security (AZDOHS) Homeland Security Regions, Urban Area Security Initiative (UASI) areas, and police, fire, and EMS associations.

2.2.1 Counties

Arizona is comprised of 15 counties (Figure 2.3). Appendix A.1 lists major cities and towns within each county. Each county has an elected board of supervisors.

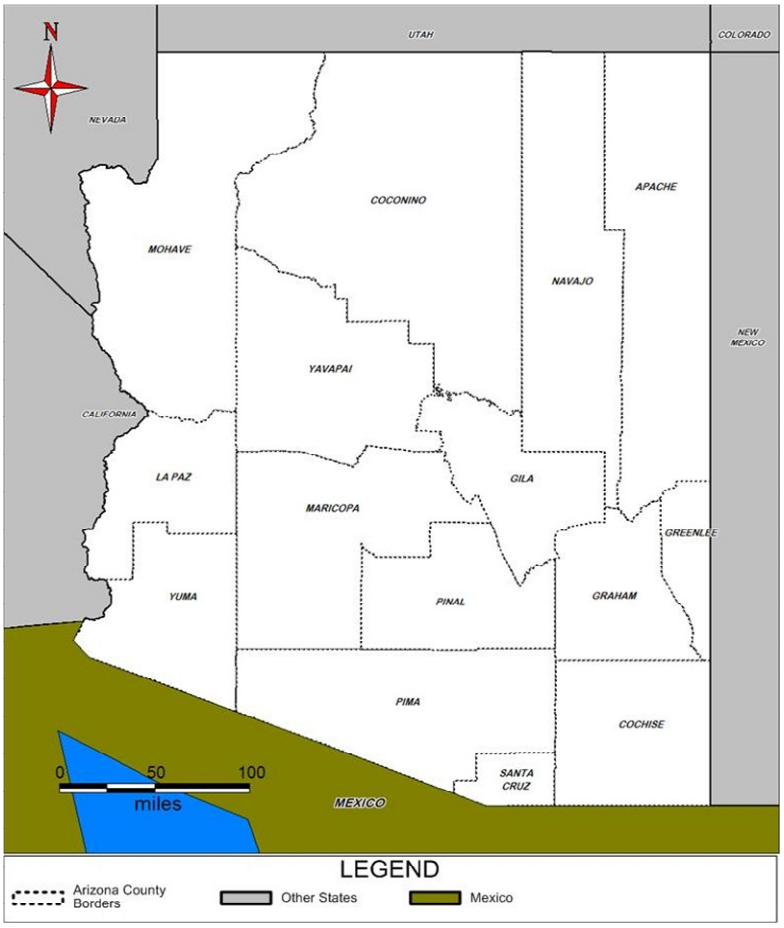


Figure 2.3: Arizona Counties

2.2.2 Tribes

Arizona contains twenty-two federally recognized Indian Tribes[5]. Figure 2.4 depicts the Arizona tribal and federal lands. Point of Contact information and land holdings for each tribal entity are located in Appendix B.

- Ak-Chin Indian Community
- Cocopah Indian Tribe
- Colorado River Indian Tribes
- Fort McDowell Yavapai Nation
- Fort Mojave Indian Tribe
- Fort Yuma-Quechan Tribe
- Gila River Indian Community
- Havasupai Tribe
- Hopi Tribe
- Hualapai Tribe
- Kaibab-Paiute Tribe
- Navajo Nation
- Pascua Yaqui Tribe
- Pueblo of Zuni Tribe
- Salt River Pima-Maricopa Indian Community
- San Carlos Apache Tribe
- San Juan Southern Paiute Tribe
- Tohono O'odham Nation
- Tonto Apache Tribe
- White Mountain Apache Tribe
- Yavapai-Apache Nation
- Yavapai-Prescott Indian Tribe

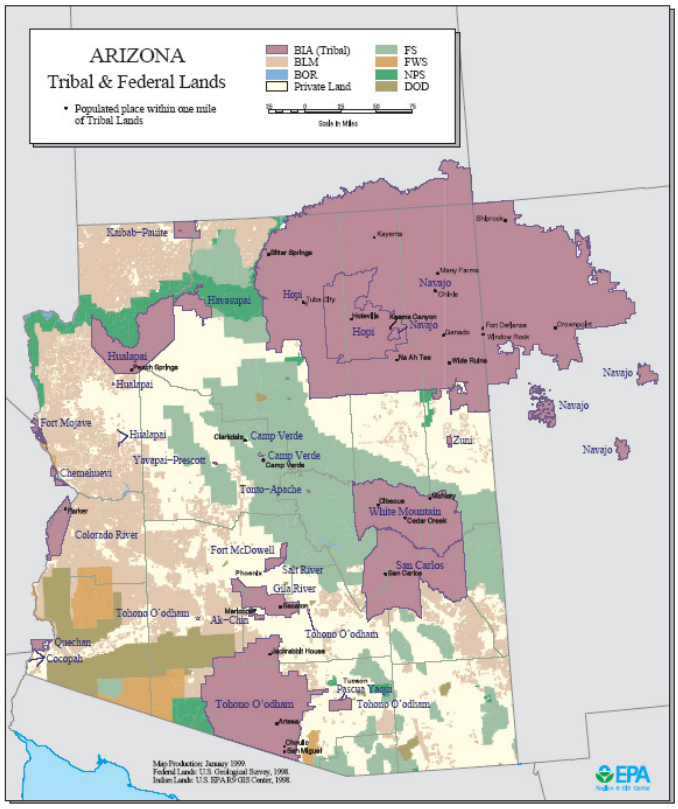


Figure 2.4: Arizona Federal and Tribal Lands

2.2.3 Homeland Security Regions

Pursuant to §41-4258 of the Arizona Revised Statutes, the AZDOHS Regional Advisory Councils (RACs) are tasked with developing, implementing, and maintaining regional homeland security initiatives in each of five Homeland Security Regions. The regions, grouped politically around county lines, represent Arizona's geographical divisions for planning and coordination purposes as shown in Figure 2.5. RACs collaborate with other councils and organizations to ensure the successful integration of homeland security programs and initiatives. Among other functions, RACs recommend a list of requests for Homeland Security grant program monies and forward these requests to the AZDOHS Director. RACs make recommendations to the AZDOHS on the allocation of Homeland Security grant monies to eligible entities. Each RAC is composed of:

- A fire service representative from an urban or suburban area within the region
- A fire service representative from a rural area in the region

[5] http://www.indianaffairs.state.az.us/tribes_of_arizona.asp

- A police chief
- A county sheriff
- A tribal representative
- An emergency manager
- A mayor
- A county supervisor
- A representative from the Department of Public Safety
- A public health representative
- Four at-large positions.

Figure 2.5: Arizona Homeland Security Regions

2.2.4 UASI Areas

Currently, the Phoenix Urban Area and Tucson Urban Area are designated as Arizona's UASI regions. The Phoenix UASI encompasses all of Maricopa County, which is also the entire Central Homeland Security Region. Appendix A.2 lists the associated municipalities within the Phoenix UASI area. The Tucson UASI encompasses all of Pima County in the South Homeland Security Region. Appendix A.2 lists the associated municipalities within the Tucson UASI area. Points of Contact for both UASI regions are located in Appendix C.

2.2.5 Police, Fire, and EMS Associations

As of 2009, Arizona has approximately 512 first responder agencies, with 15 sheriff's departments, 149 police departments, 254 fire districts, 78 ground ambulance companies, and 16 licensed air ambulance companies.

As of 2009, Arizona has 15,225 sworn law enforcement officers, 11,069 certified Basic Emergency Medical Technicians (EMTs), 48 certified Intermediate EMTs and 5,127 certified Paramedics.

2.2.6 Bureau of Emergency Medical Services Regions

The Arizona Department of Health Services Bureau of Emergency Medical Services (EMS) divides Arizona into four primary regions. These regions are grouped along mutual aid response agreement lines that recognize geographical and topographical realities to better foster the ability for responders within each region to regularly collaborate with one another.

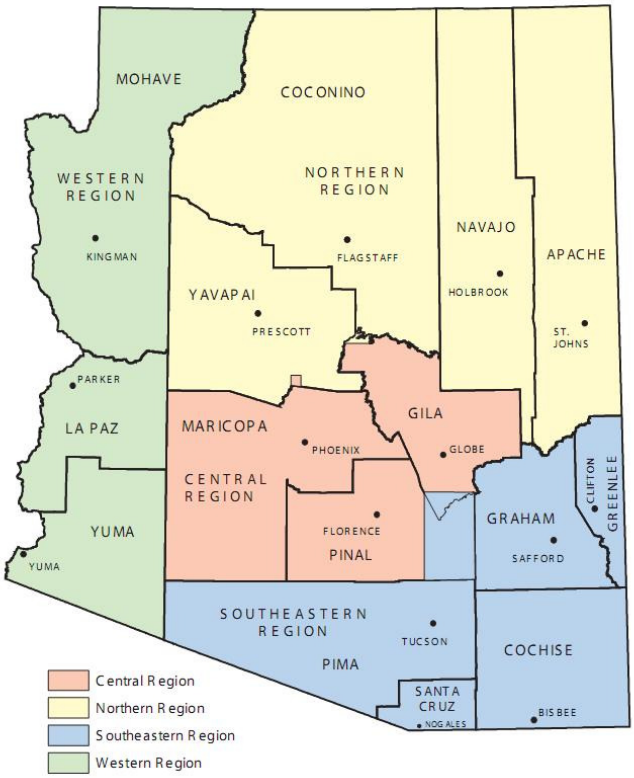


Figure 2.6: Bureau of Emergency Medical Services Regions

2.2.7 Statewide Communications Systems

Since the 1950s, the Department of Public Safety (DPS) has built and maintained an extensive analog microwave system, which still plays a major and critical role in public safety communications throughout Arizona.

In order for the DPS microwave network to continue to provide the infrastructure needed to support its mission, an upgrade of the microwave backbone to digital technology is underway. A digital backbone must be in place for Arizona to implement a modern, standards-based, interoperable public safety radio communications system statewide.

Connections to the microwave backbone are used to provide access to operable and interoperable communications systems throughout Arizona, including connections to other state and regional owned radio systems, and to Arizona Interagency Radio System (AIRS) suites located in counties throughout the state.

3.0 METHODOLOGY

In 2001, an ad-hoc community of interest began to develop a strategy for interoperable communications for Arizona. These community hosted meetings[6] were attended by multiple disciplines and levels of government, including representation from state, county, city, district, tribal, and federal governments, as well as non-governmental entities. By 2004, the Arizona State Legislature established the PSCC as a Commission (see Arizona statutes A.R.S. §41-1830.41 and §41-1830.42[7]), and the Governor appointed commissioners. Appointees were chosen to provide broad representation from jurisdictions, public safety disciplines and interest groups from across Arizona.

Beginning with a high-level plan introduced at the SIEC statewide meeting in July 2007, Arizona began developing the Statewide Communications Interoperability Plan (SCIP) to address these communications problems. Representatives of the Department of Homeland Security's Office of Emergency Communications/Interoperable Communications Technical Assistance Program (OEC/ICTAP) reviewed the plan and facilitated the meeting. After a series of meetings and forums, this SCIP was approved by the PSCC in an open meeting on November 28, 2007.

Cross-jurisdictional and cross-disciplinary involvement in the development and maintenance of this SCIP is achieved via several mechanisms. The PSCC and SIEC hold regular public meetings and workshops to discuss and make recommendations for advancing statewide communications interoperability. Standing workgroups of the PSCC and SIEC are tasked to address interoperability issues in detail. The PSIC Office supports all of these groups and receives recommendations from them regarding work plans related to the development of systems and strategies for providing interoperability for public safety communications. The PSIC Office also meets regularly with its State agency partners and supports a statewide Outreach Program providing regular and effective dialogue with Arizona public safety and service agencies/organizations. Finally, the manager of the PSIC Office serves as Arizona's Statewide Interoperability Coordinator, participating in communications interoperability advancement efforts at the regional and national level.

The activities outlined above create a repository of information within the PSIC Office regarding Arizona's needs with respect to emergency communications interoperability. The PSIC Office integrates the information into specific initiatives and supporting objectives, and presents them to the PSCC and SIEC for discussion and approval. When approved, these initiatives and objectives form the basis for updating the SCIP. The PSCC reviews and approves the SCIP, and implementation work on the initiatives then begins according to the plans outlined in the document.

3.1 SCIP Development Process

The DPS introduced the SCIP process, including a high-level draft plan, at a statewide meeting in July 2007. The SCIP project team began interviewing key individuals to determine the

[6] http://www.azgita.gov/psic/meetings/minutes.htm
[7] http://www.azgita.gov/psic/about/law.htm

immediate needs, goals, and objectives of the PSCC, SIEC and communities of interest. The project began with assembling all available reports the PSCC and others had completed previously to help understand all related efforts and the steps Arizona had taken to that point.

The bodies of work reviewed included:

1. a study conducted by RCC Consultants that identified the need to create an interoperability suite of radios (AIRS)[8]
2. a statewide Needs Analysis, conducted by the Macro Corporation
3. the Statewide Wireless Public Safety Solution Concept of Operations (ConOps), written by Gartner, Inc.

Based on the information that had been gathered, the team created a Gap Analysis and Closure Plan outlining what was required to complete the SCIP. The project team posted subsequent SCIP drafts on the PSCC/SIEC website where state, local, tribal, federal and non-governmental public safety entities were offered an opportunity to contribute their comments and input. The team also provided each of Arizona's RACs and EOCs with draft copies of the SCIP and asked them to participate in this process.

Thereafter, the PSCC conducted two additional forums, one in September and another in October of 2007. These public meetings were formally noticed and open to any interested party. After each meeting, the team edited the SCIP accordingly and placed it on the PSCC/ SIEC website to ensure availability to the largest audience possible for review. The PSCC held a Special Meeting on November 28 to review the final draft of the SCIP. On November 28, 2007, the PSCC approved the SCIP.

In October 2008, management of the PSCC was transferred from the DPS to GITA.[9] In the fall of 2008, the PSIC Office initiated a public review process to address the first major revision to the 2007 SCIP. As part of this process, the PSIC Office conducted stakeholder working sessions in November 2008[10] and February 2009[11] to garner feedback and input from the first responder community. Over 200 participants from multiple jurisdictions and disciplines were represented during these sessions.

Based on these community forums, the PSCC approved a revised set of strategic initiatives and supporting objectives on May 19, 2009, which have been incorporated into this revision to the SCIP.

3.2 PSIC Grants Consideration Methodology

All funding through the 2007 Public Safety Interoperable Communications (PSIC) grant is being utilized in support of the needs and strategic plans identified in this SCIP (see Section 5). Section 5.8 specifically describes the initiatives that are the highest priorities for 2007 PSIC funding, including the expansion of the Strategic Technology Reserve (STR) portion of the PSIC grant funding to augment and enhance statewide interoperability.

The Arizona State Administrative Agency (SAA) is the AZDOHS. The AZDOHS solicited input from state, local and tribal public safety agencies and authorized nongovernmental

[8] http://www.azgita.gov/psic/library/airs/AIRS_MOU.pdf
[9] http://azgita.gov/psic/about/transition.htm
[10] http://azgita.gov/psic/meetings/2008/nov/Working_Session_Notes_11202008_FINAL.pdf
[11] http://azgita.gov/psic/meetings/2009/feb24/SCIPWorkshopMeetingReport.pdf

organizations via briefings to the Arizona Homeland Security RACs. In addition, the AZDOHS sent emails to public safety stakeholders, posted grant solicitation information on their website, and facilitated PSIC-related teleconferences with appropriate entities.

To solicit Investment Justifications, or justification for investing federal grant dollars, the AZDOHS used an application format that local jurisdictions and State agencies were familiar with and had previously used in the Homeland Security Grant Program application process. This tool, (i.e., the Application Workbook) served a similar function as the Investment Justification template.

The Application Workbook was developed with information specific to Arizona's SCIP based on federal PSIC guidance. The Application Workbook submissions gave AZDOHS the information necessary to determine how eligible jurisdictions were able to support the SCIP and what mechanisms were necessary to ensure interoperability within their areas and throughout Arizona.

As part of the application process, AZDOHS requested that local applicants provide applicable Memoranda of Understanding, when requesting funding on behalf of investments to be managed by the State.

After the Application Workbooks were received, the PSCC Support Staff and the Interoperability Workgroup (IWG) reviewed the submissions. This review helped the AZDOHS determine the critical connection between Application Workbooks and required elements in the SCIP based on federal guidance for PSIC grant funding.

The summarized Application Workbook information was integrated into Arizona's Investment Justification narratives, included with the MOUs obtained for specific projects, and factored into the SCIP submitted in December 2007.

The RACs reviewed the Application Workbooks and made recommendations to the AZDOHS Director pursuant to A.R.S. § 41-4258. Lists of the recommended projects were also forwarded to the State Homeland Security Coordinating Council for comment. Once the reviews and recommendations were completed, and the projects were approved by Federal DHS, the AZDOHS Director made the final award decisions.

3.3 Participating Agencies and Points of Contact

It is Arizona's practice to include state, local, federal, tribal, and NGO representatives during the interoperability planning process. We actively encourage and include all disciplines in all phases of the SCIP development/update process through open public meetings of the PSCC and SIEC; outreach to local meetings; working group meetings; and electronic newsletters to interested parties. Appendix A.3 identifies the public safety and service agencies/organizations that helped develop the SCIP in 2007. Appendix E identifies the 2010 membership of the PSCC and SIEC. Over 200 participants from multiple jurisdictions and disciplines were represented during the November 2008[12] and February 2009[13] stakeholder working sessions. Names and contact information can be obtained from the PSIC Office.

Arizona also works with the National Public Safety Telecommunications Council (NPSTC), National Native American Law Enforcement Association (NNALEA), National Governors

[12] http://azgita.gov/psic/meetings/2008/nov/Working_Session_Notes_11202008_FINAL.pdf
[13] http://azgita.gov/psic/meetings/2009/feb24/SCIPWorkshopMeetingReport.pdf

Association (NGA), and National Statewide Interoperability Coordinators (National SWIC). Arizona is a participant in the Federal Partnership for Interoperable Communications (FPIC). On a regional level, Arizona also participates in the Region IX Regional Emergency Communications Coordination Working Group (RECCWG), Regional Four Corners Homeland Security Coalition (R4C) and the Southwest Border Communications Working Group (SWBCWG).

The PSCC and SIEC will continue to seek support and participation from public safety and service agencies/organizations, including additional local and tribal government representation and federal military and non-military personnel. Arizona is committed to making this on-going process as inclusive as possible.

3.4 Continuing Plans for SCIP Update

The SCIP is a living document that is intended to undergo an annual review. As of August 2008, the SWIC, as manager of the PSIC Office, is tasked with executing that review. A current draft of the SCIP and all related documents, reports and communications are posted on the GITA website[14].

The PSCC holds regular stakeholder workshops and informational meetings to keep participants in the SCIP review process updated and to solicit input for planned reviews. Further, the PSIC Office has implemented an Outreach Program designed to incorporate input from entities not historically represented in PSCC or SIEC meetings (see Section 5.3).

The PSCC Chair will notify all PSCC members of an impending SCIP review via the published agenda for regularly scheduled PSCC meetings. Additionally, the PSCC membership and PSIC Office will notify the larger community of interest of the SCIP review through outreach to its extensive database of interested parties. Input to the SCIP is not to be limited to those appointed to serve on the committee; rather it is open to all who wish to be heard.

At the close of the stated response and input period, a review of all publicly provided inputs to the SCIP will be agendized for the next PSCC meeting. During this open meeting, the suggested amendments will be discussed by the full PSCC membership and approved or disapproved.

Appendices will be updated as needed by the PSIC Office. Changes made to the body of the document will require an approval vote by the PSCC.

Pursuant to current configuration management protocols, the SCIP change log will be updated and a new version date assigned whenever the SCIP is updated. The updated SCIP will then be distributed to appropriate stakeholders via e-mail, website posting, or available directly from the SCIP POC (see Section 1).

[14] http://www.azgita.gov/psic/

4.0 CURRENT STATEWIDE ASSESSMENT

In recent years, Arizona has commissioned and executed several studies[15] to ascertain and document the current status of public safety communications statewide, to identify successful endeavors that could be leveraged moving forward, and to discover gaps hindering interoperability that need to be mitigated or rectified through future initiatives and planning efforts.

The following sections synopsize key findings from these assessments to describe the current status of Arizona's interoperable communications capabilities. Summaries of key findings are divided into five categories (governance, standard operating procedures, technology, training & exercises, and usage), as defined in the Department of Homeland Security (DHS) Interoperability Continuum[16] (Figure 4.1 below).

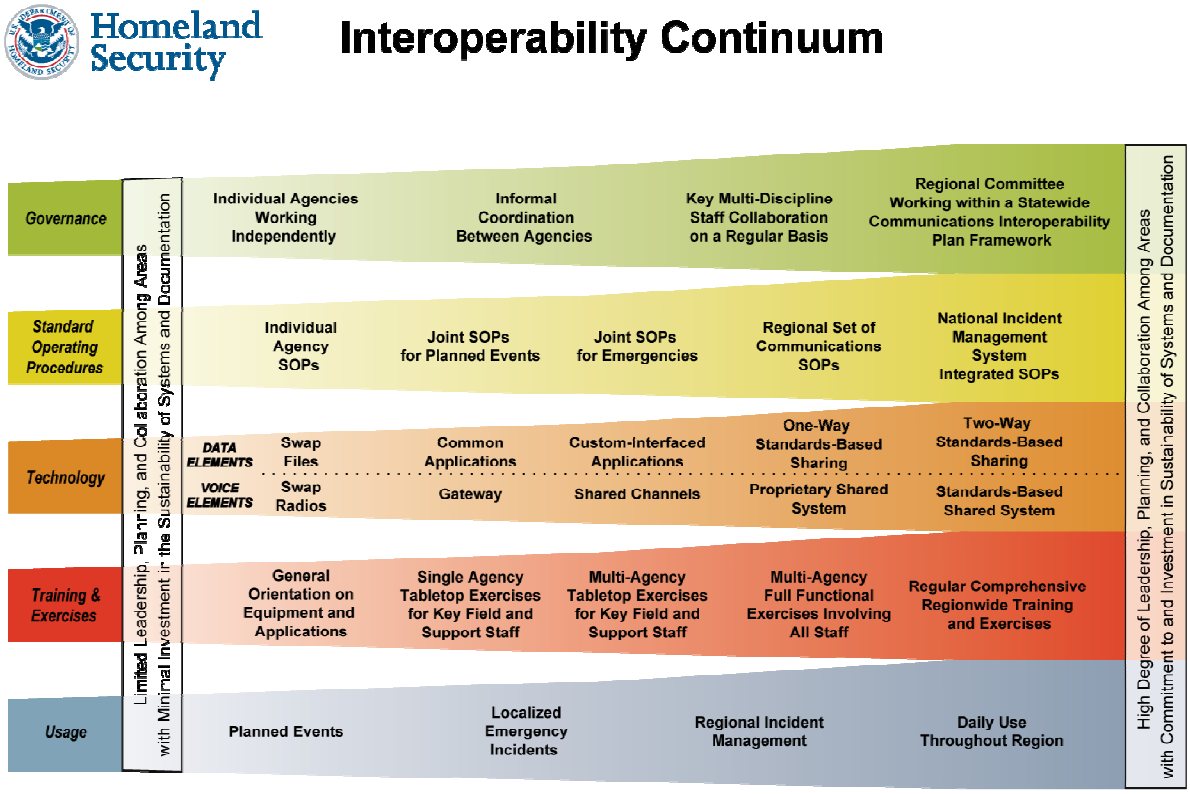


Figure 4.1: Interoperability Continuum

4.1 Governance

A multi-level structure governs Arizona interoperable communications (Figure 4.2). This structure consists of the PSCC, its Governance Workgroup, the SIEC, and the Technical and

[15] http://www.azgita.gov/psic/about/commission.htm
[16] http://www.safecomprogram.gov/SAFECOM/Tools/Continuum/

Operational Workgroups under the SIEC. The PSCC and SIEC are managed and staffed by, and in turn advise, the PSIC Office (formerly the PSCC Support Office) which was moved by statute in July 2008 from the DPS to GITA. Key partner agencies include the AZDOHS and the DPS.

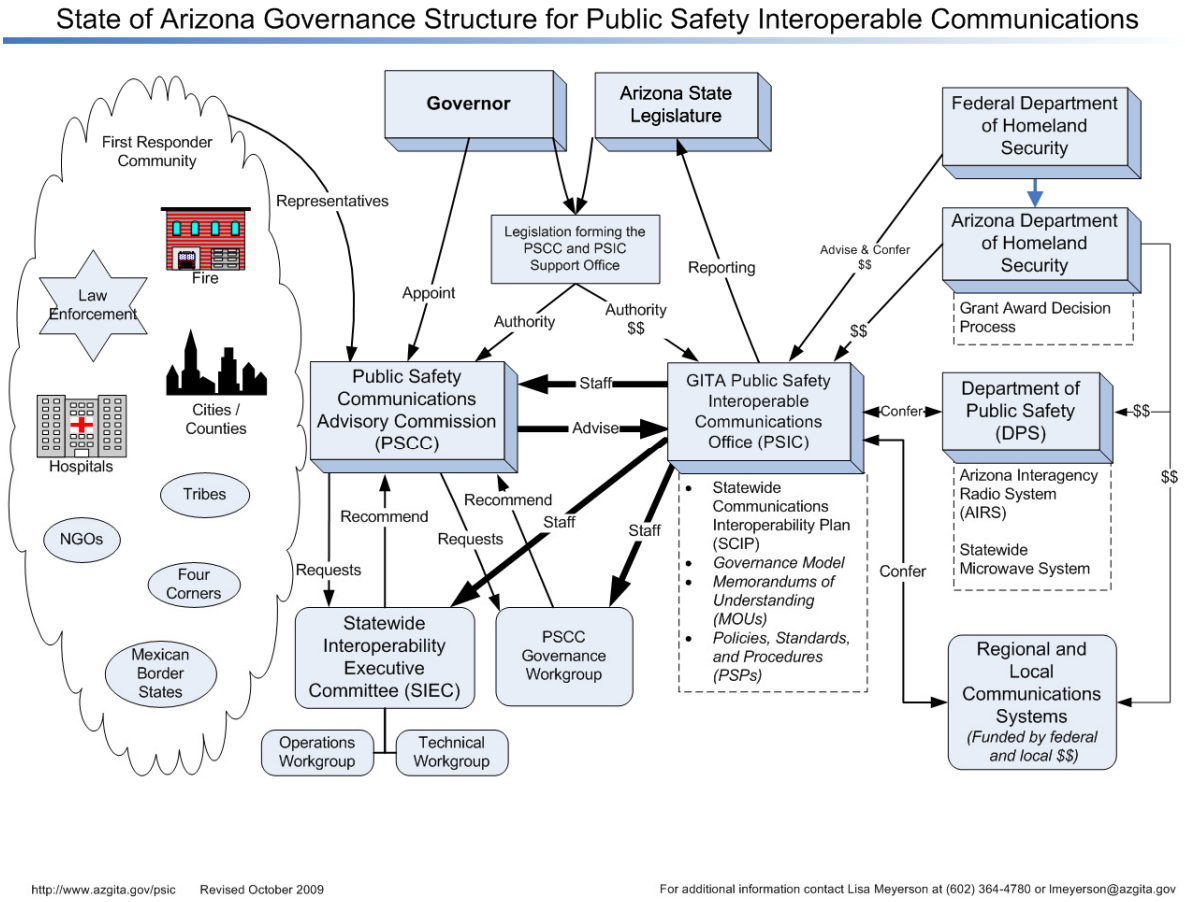


Figure 4.2: Arizona Organizational Model

The stakeholders involved in public safety communications interoperability involve all members of the public safety community, including without limitation:

1. City and County Managers
2. Communication Center (911) Managers
3. Elected Officials
4. Emergency Management Personnel (Operations Level)
5. Emergency Managers
6. Incident Commanders
7. Members of Police/Fire Boards
8. Members of PSCC, SIEC and working groups
9. Police & Fire Executive Staff, Operational Staff and Officers
10. Public Safety & Government Associations
11. Regional and Border Initiative Participants - federal, multi-state, local, and tribal
12. Regional System Administrators
13. UASI Members

4.1.1 Public Safety Interoperable Communications (PSIC) Office

The PSIC Office[17] within GITA is charged with advancing interoperable communications in Arizona and supporting the PSCC and SIEC in performance of their missions[18].

The Arizona State Legislature moved support for the PSCC and SIEC to GITA from its prior home at the DPS, retroactive to July 1, 2008. During the window of time between the end of fiscal year 2008 and the general effective date of the legislation, the DPS and GITA worked closely to transfer the PSIC Office (formerly the PSCC Support Office) to GITA. The transition was completed on October 2, 2008.

Statutory Framework

A.R.S. §41-3542[19] sets forth the powers and duties of the PSIC Office and the PSCC. The PSCC makes recommendations to the PSIC Office regarding the development and maintenance of work plans to outline areas of work to be performed and appropriate schedules. Specifically, §41-3542 reads:

> *The Arizona PSCC shall make recommendations to the agency regarding the development and maintenance of work plans to outline areas of work to be performed and appropriate schedules for at least the following:*
>
> 1. *The development of a standard based system that provides interoperability of public safety agencies' communications statewide.*
> 2. *The promotion of the development and use of standard based systems.*
> 3. *The identification of priorities and essential tasks determined by the advisory commission.*
> 4. *The development of a timeline for project activities.*
> 5. *Completion of a survey of existing and planned efforts statewide and benchmark against similar efforts nationally.*
> 6. *Providing support for the state interoperability executive committee.*
> 7. *Establishing committees and work groups as necessary.*

PSIC Vision

Arizona's public safety and service agencies/organizations, at all levels of government and within non-governmental organizations, have access to quality interoperable communication systems, are adequately trained, and utilize such systems effectively in multi-disciplinary, multi-jurisdictional incident response.

PSIC Mission

The PSIC Office serves as a leader for Arizona in advancing public safety communications interoperability.

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[17] http://www.azgita.gov/psic/
[18] http://www.azgita.gov/psic/plans/ARIZONA_PSIC_Office_Plan.pdf
[19] http://www.azgita.gov/psic/about/law.htm

PSIC Key Priorities

The key priorities of the PSIC Office are to:

1. Arizona's Interoperability Representative – Serve as Arizona's principal communications interoperability contact to State, federal, local, tribal and non-governmental agencies and organizations, and participate in key multi-state, regional, border and demonstration initiatives with partners
2. Planning & Consulting – Engage with and garner input and direction from stakeholders, seek out and utilize technical assistance from SAFECOM and expert consultants, develop actionable plans, project oversight, assistance with grant and technical assistance requests
3. Funding & Reporting – Seek funding to ensure program sustainability, reporting on performance measures to federal and State government
4. Logistics & Operations – Support Commission, Committee, Workgroups and task force meetings, develop action plans, RFPs, RFQs, and other communications to support project management and operations
5. Stakeholder Engagement & Interactions - Engage public safety stakeholders statewide to share information, identify needs and resources, participate in training and exercise, and ensure that feedback is reaching the PSCC and the SIEC.

4.1.2 Public Safety Communications Advisory Commission (PSCC)

The Arizona PSCC is legislatively enabled as an advisory body for statewide interoperability efforts. The PSCC was organized in 2000 and its charter established into state law in 2004 by the Arizona State Legislature under A.R.S. §41-1830.41 and §41-1830.42[20].

The Commission was originally established within the DPS but was transferred to GITA in 2008. The Commission reflects a broad, multi-disciplinary community of public safety and service agencies/organizations from across Arizona. It is intended to provide a forum to discuss public safety communications initiatives developed at the state and regional level. Additionally, the PSCC provides a mechanism for coordinating public safety communication issues among local, state, federal, and other agencies operating within Arizona.

The PSCC consists of 15 governor-appointed members reflecting multi-disciplinary public safety and service agencies/organizations including representatives from the DPS, police, sheriff's office, fire, EMS, and communications entities, along with the AZDOHS and GITA. Appointments to the Commission are made so that the existing five Homeland Security Regions in Arizona are as equally represented as possible. Members serve three year terms and must be confirmed by the Arizona State Senate. The GITA Director serves as the PSCC Chair. Membership of the PSCC as of 2010 is in Appendix E.

Meeting Schedule

The PSCC has held regular open and public meetings since its inception. The PSCC meets at least quarterly, and more often if necessary. All meetings are publicly noticed and conducted in

[20] http://azgita.gov/psic/about/law.htm

accordance with Arizona open meeting laws (A.R.S. §38-431). Following each session, public meeting notes are available[21].

4.1.3 Statewide Interoperability Executive Committee (SIEC)

The PSCC formed the SIEC as an advisory committee. The SIEC also holds authority over 700 MHz, VHF, and UHF interoperability frequencies in Arizona. It is an interactive working group that encourages broad participation from public safety and service agencies / organizations as part of its Operational and Technical Workgroups. Membership of the SIEC as of 2010 is in Appendix E.

Workgroups

The PSCC and SIEC are supported by three workgroups composed of volunteers from public safety and service agencies / organizations[22].

> The **Governance Workgroup** evaluates and makes recommendations to the PSCC on providing a unified approach across multiple disciplines and jurisdictions to govern interoperable communications.
>
> The **Technical Workgroup** evaluates and makes recommendations from a technical perspective to the SIEC on Policies, Standards and Procedures. Examples of issues tasked to this workgroup might include issues surrounding spectrum management and utilization of the Communication Assets Survey and Mapping Tool (CASM).
>
> The **Operational Workgroup** evaluates and makes recommendations from an operational perspective to the SIEC on MOUs, SOPs, and on Policies, Standards and Procedures. This Workgroup might also be tasked with making recommendations on Training and Exercises, and on Outreach.

Meeting Schedule

SIEC meetings are scheduled to occur between meetings of the PSCC. This schedule enables the PSCC to guide the work of the SIEC and allows the SIEC and its workgroups time to progress on that work before the next PSCC meeting. The SIEC's meeting schedule is subject to change based upon the work and needs of the PSCC and requirements of the committee. All meetings are publicly noticed and conducted in accordance with Arizona open meeting laws (A.R.S. §38-431). Following each session, meeting notes are publicly available[23].

[21] http://www.azgita.gov/psic/meetings/minutes.htm
[22] http://www.azgita.gov/psic/about/commission.htm
[23] http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/38/00431.htm&Title=38&DocType=ARS

4.1.4 Applicable Interoperable Communications MOUs and Other Agreements

AIRS

AIRS is a suite of full-time, cross-banded (i.e., UHF, VHF, and 800 MHz) mutual aid channels designated specifically for multi-agency use across the State of Arizona. Agencies and organizations wishing to operate on AIRS must sign an MOU with DPS, the agency holding the licenses for AIRS frequencies. The MOU is a simple two-page agreement (plus a signatory page) containing the purpose, authority, applicability, and understanding of the agreement. It requires an authorized signature of the User Agency and the Manager of the DPS Wireless Systems Bureau (WSB). Additionally, it requires the user agency to disclose the number of subscriber units and the channels on which those units will function.

Arizona Mutual Aid Compact

The Arizona Mutual Aid Compact[24] (AZMAC) is entered into by and among the signatory political jurisdictions within Arizona and the Arizona Department of Emergency and Military Affairs (DEMA). While the Compact is not specifically communications-focused, it allows signatories[25] to make a request for any emergency management resource, including communications resources, and provides a formal framework for dispatching mutual aid assistance to any affected area in accordance with local ordinances, resolutions, emergency plans or agreements. Contracting authority for political subdivisions of Arizona for this Compact is based upon A.R.S. § 26-308, which provides that each county and incorporated city and town of Arizona may appropriate and expend funds, make contracts and obtain and distribute equipment, materials and supplies for emergency management purposes. Tribal contracting authority is in accordance with each tribe's laws.

Additional Agreements

In accordance with A.R.S. Chapter 2, Article 1, § 26-303 (D) "*State emergency plans shall be in effect in each such political subdivision of the state. The governing body of each such political subdivision shall take such action as is necessary to carry out the provisions thereof, including the development of additional emergency plans for the political subdivision in support of the state emergency plans.*" ADEM's Preparedness Section requests each County to submit the latest version of their County Plans in order to keep them on file for use by ADEM personnel.

Jurisdictions who have approved the Arizona Mutual Aid compact (AZMAC) have agreed to share resources under mutual aid request, including communications resources. For example, Cochise County in southwestern Arizona shares borders with Mexico and New Mexico and has agreements with the Hidalgo County Sheriff's Department in New Mexico for sharing frequencies/channels, as well as MOUs and agreements with Mexico to use their Tetra Radios to communicate with their 911 Dispatch Center (C-4). In northwestern Arizona, Mohave Valley Fire has a mutual aid agreement with San Bernardino County in California, and is working on an agreement with Clark County in Nevada.

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[24] http://www.dem.azdema.gov/logistics/docs/mutualaid/Final_AZ_Mutual_Aid_Compact08.pdf
[25] http://www.dem.azdema.gov/logistics/docs/mutualaid/signatories.pdf

Arizona participates in regional groups working to improve interstate and international communications interoperability:

- FPIC coordinates interoperability capabilities within the federal government and between federal, state, local and tribal agencies. Arizona works with FPIC representatives on the Southwest Border Communications Working Group to identify and leverage infrastructure-sharing opportunities and to enhance interoperability among federal, state, local, and tribal agencies implementing wireless infrastructure along the U.S.-Mexico border.
- In the Four Corners area where Colorado, Utah, New Mexico, and Arizona meet, the R4C Coalition is taking a regional approach with a project involving all tribes and all counties located near the intersection of the four states. Initially, the R4C Coalition is addressing interoperable communications, information and intelligence sharing, and the protection of critical infrastructure and key resources regionally, through an all-hazard, multi-discipline, cross-jurisdictional approach.

4.1.5 Identified Governance Gaps

In 2009, Arizona was selected as one of six states to participate in the NGA Center for Best Practices Interoperability: Focus on Governance Policy Academy. The goal of each state's participation was to improve state interoperability governance structures that oversee statewide interoperability planning and implementation. The PSIC Office recognizes the following governance gaps pertaining to statewide interoperable communications in Arizona:

- **Need to strengthen the governance structure for interoperability efforts** – A Governance Workgroup of the PSCC was established to strengthen Arizona's governance structure.
- **Lack of standard documents associated with governance** – Arizona needs to develop a more comprehensive governance documents to support the interoperable communications governance structure.
- **Lack of sustainable funding models** – Arizona has yet to identify a sustainable funding model to support interoperable communications. State and local governments in Arizona are facing acute budget shortfalls and are struggling to create or maintain communications operability, let alone moving forward with interoperability.
- **Lack of robust standard operating procedures** – Although statewide responders report anecdotal evidence of regular ad-hoc radio communications across diverse agencies and jurisdictions, formal SOPs for such interactions need to be proposed, endorsed, codified, maintained and enforced.
- **Lack of performance measures** – Arizona needs to develop performance measures for assessing interoperable projects, initiatives, governance and related activities.

Participation in the NGA Governance Academy and development of the Communications Interoperability Governance Assessment Report completed through an OEC/ICTAP technical assistance award contributed significantly toward efforts to improve interoperability governance, including:

- Realigning meeting schedules for the PSCC and SIEC to facilitate direction setting and accelerate processing of recommendations

- Moving key meetings to other areas of Arizona and including regional updates to encourage more regional and rural participation
- Naming the PSIC Office Manager to be Arizona's first Statewide Interoperability Coordinator
- Strengthening the SIEC by reconstituting and activating its workgroups
- Integrating Subject Matter Experts from throughout Arizona into the SIEC workgroups and the Stakeholder Resource Pool
- Beginning formation work for a State Agency Group dedicated to advancing state agency communications interoperability
- Instituting regular meetings between the PSIC Office and its critical partner agencies
- Forming and staffing a statewide Outreach Program with a dedicated Outreach Manager focused on increasing participation in governance, providing education and identifying unmet needs.

Resolutions to remaining governance gaps will be charted through the strategic initiatives identified below in Section 5.7.

4.2 Standard Operating Procedures (SOPs)

Arizona is enhancing its incident planning and response by enabling and improving communications among the local, state and federal government's public safety and service agencies/organizations. A critical component of this process is the development and implementation of SOPs. SOPs are defined as formal written guidance or instructions for public safety personnel to follow as they respond to incidents or events. These SOPs typically include operational and technical components that enable public safety professionals to coordinate their response within and/or across disciplines, agencies, and jurisdictions.

Individual agencies statewide develop and maintain their own SOPs for agency-specific communications response. In addition, each county maintains a series of SOPs on-file between its EOC and the State. These SOPs are supported by MOU and Continuity of Government (COG) Plans that are also maintained by the county EOCs. In regards to the development of the 2009 AZDOHS Target Capabilities Assessment (TCA), county EOC directors, managers, and coordinators were requested to share a listing of National Incident Management System (NIMS) compliant SOPs that include interoperable communications components with the PSCC.

At the regional and UASI level, Arizona is developing Tactical Interoperable Communications Plans (TICPs) and is in the process of developing SOPs for statewide communications assets, including AIRS and the Strategic Technology Reserve. SOPs are further detailed in Section 4.2.3.

4.2.1 SOP Development Process

SOPs are developed in a variety of ways across Arizona. Individual agencies and localities are empowered to develop their own communications SOPs related to their individual assets or systems. SOPs related to interoperable communications are frequently developed by leveraging social networking relationships between members of the involved agencies or jurisdictions. SOPs designed to address statewide assets or systems are developed in collaboration with the PSCC or SIEC. These groups allow representatives from across Arizona

to participate in the SOP development and approval process to ensure that procedures that may impact jurisdictions statewide are developed through a collaborative and fair process.

Going forward, Arizona, and specifically the PSIC Office, is developing protocols to ensure that SOPs related to statewide interoperable communications systems are maintained and updated on a regular basis and that the latest releases of those SOPs are readily available on the PSIC website. The Outreach Program managed by the PSIC Office will continually work to ensure that public safety professionals of all appropriate levels are aware of the SOPs and trained in their execution.

4.2.2 National Incident Management System (NIMS) Compliance

Homeland Security Presidential Directive 5 (HSPD-5)[26], *Management of Domestic Incidents*, directed the development and administration of NIMS. Originally issued on March 1, 2004, by the Department of Homeland Security (DHS), NIMS provides a consistent nationwide template to enable federal, state, tribal, and local governments, nongovernmental organizations (NGOs), and the private sector to work together to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity.

NIMS represents a core set of doctrines, concepts, principles, terminology, and organizational processes that enables effective, efficient, and collaborative incident management. Communications interoperability allows emergency management/response personnel and their affiliated organizations to communicate within and across agencies and jurisdictions via voice, data, or video in real time, when needed, and when authorized. It is essential that these communications systems be capable of interoperability, as successful emergency management and incident response operations require the continuous flow of critical information among jurisdictions, disciplines, organizations, and agencies.

ADEM is responsible for ensuring statewide NIMS compliance in accordance with Arizona's Governor's Executive Order 2007-23[27] (see Section 5.6 and Appendix D). In Arizona, each agency is responsible for maintaining NIMS compliance. Specific to communications, each agency must be able to demonstrate that their communication systems are interoperable, address plain language use, present consistent and accurate information, and use common and consistent terminology. Participating agencies annually complete a self-assessment using the NIMS Compliance Assistance Support Tool (NIMSCAST) provided by the Federal Emergency Management Agency's National Integration Center - Incident Management Systems Division. The self-assessment is used as a baseline to determine current strengths and identify areas of weakness in their on-going efforts to maintain NIMS compliance.

AZDOHS requires an agency to complete the NIMSCAST Survey and remain compliant in order to receive grant funding from available Federal Department of Homeland Security grant programs. ADEM provides general outreach and education to agencies in the use of the NIMSCAST Survey Tool throughout the year.

In 2007, ADEM executed a contract for an independent third party audit of each SOP and MOU then on file. Audit results found full compliance with NIMS at the state and local government level. Pursuant to this audit, all Arizona plans, including this SCIP, follow Presidential Directive HSPD-5 and Executive Order EO2005-08 and are designed as NIMS compliant documents.

[26] http://www.dhs.gov/xabout/laws/gc_1199894121015.shtm#1
[27] http://azmemory.lib.az.us/cdm4/item_viewer.php?CISOROOT=/execorders&CISOPTR=631&CISOBOX=1&REC=12

4.2.3 Interoperable Communications SOPs

The PSCC is legislatively charged with providing recommendations to the PSIC Office on the development of standards based systems that provide interoperability between public safety and service agencies/organizations statewide. It is therefore the body tasked with development of statewide SOPs. Both the PSIC Office, which supports the PSCC, and the SIEC, as the committee of the PSCC responsible for technical and operational recommendations, are engaged in the work of producing statewide SOPs. Because the PSIC Office is managed by the Arizona SWIC, the development of the SOPs is well aligned and prioritized with other statewide initiatives.

Several entities in the public safety interoperable communications governance structure play a role in the development of statewide SOPs. The Stakeholder Resource Pool provides subject matter expertise. The Technical and Operational Workgroups of the SIEC provide state and local practitioners throughout Arizona who contribute practical input and guidance.

From initial draft to final document, statewide SOPs are discussed in public meeting forums and stakeholder feedback is incorporated throughout the development process. The Outreach Program managed by the PSIC Office creates awareness of the development work and assists with efforts to publicize and provide education regarding the SOPs.

Statewide SOPs of note are detailed below. Agencies included in the development of each SOP vary, but the agencies expected to comply with each SOP should be signatory to that SOP either directly or through associated MOUs.

AIRS[28]

In 2009, the SIEC, through the PSIC Office, engaged the technical assistance of OEC/ICTAP to assess the current status of AIRS and to help develop an SOP for the system. This SOP is intended to provide an overview of the AIRS system and to inform monitoring, testing, dispatcher and user actions regarding these channels. While the SOP was in development, the PSCC opted to include some information and recommendations about locally available national interoperability channels as well.

To develop this SOP, Arizona personnel collaborated with OEC/ICTAP to conduct a full assessment of the existing AIRS documentation developed to date. This assessment formed the basis for a draft revised SOP. This draft was brought before successive SIEC meetings throughout its evolution and also distributed through outreach to numerous subject matter experts (SMEs) and AIRS users statewide. DPS provided extensive inputs to the draft and guidance regarding AIRS.

TICPs

Many SOPs are adopted as part of a TICP. The processes required to develop TICPs (e.g., multi-jurisdictional meetings, data collection, validation exercises, etc.) foster regional networking opportunities and bring communications personnel together in a way that garners more perspectives and inputs.

[28] http://www.azgita.gov/psic/library/airs/default.htm

The Phoenix Urban Area and Tucson Urban Area are designated by the DHS as UASI regions within Arizona. The Phoenix UASI area encompasses all of Maricopa County, which is also the entire Central Region RAC. The Phoenix UASI area developed its TICP in response to the 2006 DHS TICP initiative. That plan was tested via a TICP Validation Exercise (TVE) in 2006. Communications assets identified in the Phoenix TICP were included in the State Technology Assessment section of the original SCIP.

The Tucson UASI area includes the entire Pima County Region. Tucson was designated a UASI region in January 2007, and completed its TICP in August 2009.

Arizona leveraged OEC/ICTAP technical assistance in 2009 to develop a TICP for the Yuma Region, in accordance with After Action Report (AAR)/Improvement Plan (IP) recommendations in their successful communications-focused tabletop exercise.

Arizona Field Operations Guide

The Arizona Field Operations Guide[29] is a comprehensive field manual for the fire service. The guide includes sixteen chapters with three appendices. Commanders' Responsibilities, Mutual Aid Requests and Deliveries, Urban Search and Rescue, and Safety and Accountability are among the many fire-related programs and procedures explained in detail. Additionally, the document covers several related NIMS/ICS sections such as Command, Logistics, Operations, Planning and Finance. It defines tower/repeater locations and operational details as well as use of national- and state-designated tactical and calling channels. In addition, it includes maps identifying the channels to be used based on user location.

Local Communications Center SOPs

Independent Communications Centers, which are dispatch centers for the various regional communications systems, have dedicated policies and SOPs giving guidance to employees and center users. These guides contain procedures for all aspects of the center's operations including answering phones, paging for emergency and non-emergency calls, equipment operation including interoperability gateways and electronic patching, and selecting repeater locations for coverage control. In addition to specific equipment procedures, the documents contain protocols for dispute resolution, archiving and historical recall, and employee-related rules, such as ethical conduct. SOPs of this nature are reviewed regularly with employees and users and are enforced by the Communications Center Supervisors, Directors and Field Coordinators.

Arizona SIEC VHF Minimum Equipment Standards

The SIEC has adopted nationally recognized feature sets for VHF equipment that promote interoperability. This one-page standards document details minimum channel capacity, channel display, frequency range, narrowband capability and P-25 capability[30].

Arizona SIEC UHF Minimum Equipment Standards

The SIEC has adopted nationally recognized feature sets for UHF equipment that promote interoperability. This one-page standards document details minimum channel capacity, channel display, frequency range, narrowband capability and P-25 capability[31].

[29] http://azchiefs.publicaware.com/Assets/dept_1/PM/pdf/Field_Ops_Guide.pdf
[30] http://www.azdps.gov/pscc/documents/vhfminimumequipstandards.pdf
[31] http://www.azdps.gov/pscc/documents/uhfminimumequipstandards.pdf

4.2.4 Identified SOP Gaps

Arizona officials recognize the value of standardized statewide SOPs for interoperability assets such as AIRS and the equipment included in the Strategic Technology Reserve. While basic procedures exist, these SOPs generally lack sufficient detail to make them actionable by users and are in the process of being enhanced. These enhancements include documenting discrete procedures for field users and communications personnel, and standardizing those procedures to the extent appropriate for statewide use. Arizona also recognizes the operational need for TICPs in each region statewide, the need to standardize procedures for statewide assets across all TICPs, and the need to consolidate data from regional TICPs into a state-level tactical communications plan.

Resolutions to these gaps will be charted through the strategic initiatives identified below in Section 5.7.

4.3 Technology

Arizona is currently pursuing a system-of-systems approach to interoperability within the state, coordinating and encouraging interconnection of the various existing operability and interoperability assets to one another in order to provide communications between public safety professionals. Existing interoperability assets are categorized as shared systems, shared channels, gateways, and radio caches.

In 2009, the AZDOHS commissioned a statewide TCA that included the collection of information pertaining to public safety and service agencies'/organizations' interoperable communications capabilities. Once that data is fully analyzed, salient information from the TCA will be incorporated into plans for strategic initiatives under this SCIP as well as detailed in future versions of this SCIP.

4.3.1 Shared Systems

"Shared system" refers to a single radio system used to provide service to multiple public safety and service agencies/organizations. The results of the 2007 Radio Systems Report show that Arizona operates on multiple local, regional, and state shared land mobile radio (LMR) systems. The majority of these systems serving the more rural areas of Arizona are conventional VHF or UHF while the larger metropolitan areas have migrated, or are in the process of migrating, to 800 megahertz (MHz) trunked systems. State agency systems operate mostly in the UHF and VHF radio bands, with some in 700/800 MHz.

It is important to note that, per FCC requirements, all radios, including portables, mobiles, and base stations, must be narrowbanded by 2013. In Arizona, many radios are currently in use statewide that will therefore need to be replaced in order to meet narrowbanding requirements. As such, agencies are encouraged to purchase radio equipment which meets the standards established by the SIEC regarding interoperability.

State Agency Systems

Table 4.1 lists the major State Agency Systems in use (or planned) in Arizona.

Table 4.1: Major State Agency Systems

State System Name	Description	Status
DPS Microwave Backbone Infrastructure	Analog technology; moving to digital; southern loop expected to be complete in 2009	Existing and being enhanced
AIRS	VHF, UHF, 800 MHz conventional	Existing and being extended
700 MHz System for state agencies (with possible usage by others)	P25 700 MHz digital trunked	Planned, subject to funding
Arizona Game & Fish, Arizona State Land and Arizona State Parks, and Arizona Departments of Corrections, Agriculture and Juvenile Corrections	VHF conventional	Existing
Department of Public Safety	UHF conventional	Existing
Department of Transportation	VHF conventional, 800 MHz trunked	Existing
DEMA Radio Network (DRN)	VHF conventional	Existing
EMSCOM, Veterans Memorial Coliseum, Shared Government Operations	UHF conventional	Existing

DPS Microwave Backbone Infrastructure

Arizona's microwave network is owned, operated, engineered, and maintained by DPS and provides microwave connectivity for public safety and service agencies and organizations throughout Arizona. Designed primarily to support State agency radio systems, the network utilizes high mountain-top sites across both metro and rural Arizona to provide radio coverage throughout much of the state. As this analog microwave backbone system grew over the past half-century, a multitude of local agencies, state, county and federal users and functions have come to rely on the DPS statewide sites and/or microwave network for their communications needs. A number of these agencies are listed in Appendix F.

The microwave network interconnects radio sites located across Arizona with dispatch centers and other facilities. It is used mostly to control radio base stations at remote communications sites and can also be used to carry computer data and telephone signals. As of November 2009, the existing analog network is comprised of 55 paths, each connecting two locations, and configured into three loops. These paths range in length from a few miles to over 130 miles, in total covering 2,613 miles across Arizona.

Since the mid 1990s, most new communications systems being installed for private microwave users have been all digital technology. Since 2000, all remaining manufacturers have discontinued support for their older analog products, leaving Arizona at the mercy of the used spare parts market. As such, Arizona is facing the very real possibility of a failure that could cause a major disruption of its public safety radio, telephone, and data communications systems, which would be catastrophic to many of its users today, seriously jeopardizing the public safety and homeland security of the state.

In order to support proposed technical initiatives (see Section 5.8) and infrastructure requirements in Arizona, the DPS microwave backbone is being upgraded from an analog network to a digital network, subject to funding availability. This upgrade, being completed by the DPS/WSB, is critical to statewide communications interoperability in Arizona. As of November 2009, the digital network is comprised of 41 paths covering over 1062 miles across

Arizona, and continues to expand. Some of these new connections are spurs off of the network loop. However, until all of the primary sites in each loop are upgraded to digital, the analog network needs to remain in place. To complete this project, it is expected that close to 100 digital paths connecting up to 85 remote and metro sites/facilities will have been put in place.

Local and/or Regional Shared Systems

Table 4.2 lists the major local and/or regional shared systems in Arizona and includes those used for operable as well as interoperable communications and wireless data networks. Further information on the larger shared systems utilized in major metropolitan areas (i.e. the RWC, TRWC, PCWIN, and YRCS) is provided in Appendix H.

Table 4.2: Arizona Local and/or Regional Shared Systems

Regional System Name	Description	Status
Regional Wireless Cooperative (RWC) – City of Phoenix (Administrative Manager). See Appendix H.2.	700 & 800 MHz P25, simulcast trunked	Existing
TOPAZ Regional Wireless Cooperative (TRWC) – The City of Mesa (Administrative Manager). See Appendix H.3.	700 & 800 MHz P25, simulcast trunked	Existing
Pima County Wireless Integrated Network (PCWIN). See Appendix H.1.	800 MHz P25, simulcast trunked	In development; Expected completion 2013
Yuma Regional Communications System (YRCS). See Appendix H.4.	800 MHz, P25 trunked	Existing and being enhanced
Central Arizona Project	800 MHz trunked	Existing
Salt River Project	VHF conventional, UHF conventional, 900 MHz trunked	Existing
Arizona Public Service	800 MHz trunked	Existing
Northern Arizona University and City of Flagstaff	800 MHz trunked	Existing
Phoenix Fire Regional Dispatch	VHF conventional	Existing
Prescott regional communications	VHF conventional	Existing
Sedona fire regional	VHF conventional	Existing

The frequency band used in all of the radio systems serving entities in Arizona are shown in Appendix F. That appendix also shows statewide spectrum usage by Arizona's public safety and service agencies/organizations.

4.3.2 Shared Channels

Inter-system "shared channels" refer to common frequencies/talkgroups established and programmed into radios to provide interoperable communications among agencies using different radio systems. In this context, "channel" refers to the name of a common frequency/talkgroup visually displayed on a user's radio.

AIRS and National Interoperable Shared Channels

AIRS is a suite of full-time, cross-banded mutual aid channels designed to provide interoperable communications capability to public safety and service agencies / organizations, as well as other personnel of federal, state, local, tribal agencies and approved non-governmental organizations (NGOs) performing public safety activities. This system operates on designated interoperability frequencies in the VHF, UHF and 800 MHz bands. Agencies

wishing to operate on AIRS must sign a Memorandum of Understanding (MOU) with DPS, which holds the licenses for AIRS frequencies.

These radio frequencies are to be used in the event of a multi-agency operation requiring the use of the common or shared radio channels, specifically for the purpose of coordinating activities during incidents. AIRS frequencies are not designed to be used by a single agency for routine public safety operations. Many public safety and service agencies/organizations in Arizona report having AIRS channels programmed in their radios.

This system provides a basic statewide interoperability asset and establishes a talk path for emergency operations in any covered area of Arizona. Arizona's short-term strategy includes expansion of AIRS coverage in order to provide a basic level of interoperability through national- and state-designated interoperability channels. Specific information regarding these channels is available through the AIRS SOP[32].

Additional Shared Channels

Once fully analyzed, salient information from the TCA will be incorporated into future versions of the SCIP and should provide additional information relevant to other Shared Channels.

4.3.3 Gateways

"Gateway" systems interconnect channels of disparate systems (whether on different frequency bands or radio operating modes), allowing first responders using their existing radios and channels to be interconnected with the channels of other users outside of their agency. Dispatch consoles that are able to create patches are also identified as gateways.

Once fully analyzed, salient information from the TCA will be incorporated into future versions of this SCIP and should provide additional information relevant to this particular capability.

4.3.4 Radio Caches

Cache radios, also known as "swapped radios," refer to maintaining a cache of standby radios that can be deployed to support regional incidents. These radios may be from a regional cache, or from a participating agency. These radios allow all responders to use common, compatible equipment during an incident.

Public safety and service agencies/organizations statewide have radio caches of various sizes and on various systems or frequency bands, but the content, programming, and capabilities of these caches are determined by the owning agency and are not standardized in any way statewide.

Once fully analyzed, salient information from the TCA will be incorporated into future versions of this SCIP and should provide additional information relevant to this particular capability.

[32] http://www.azgita.gov/psic/library/airs/default.htm

4.3.5 Strategic Technology Reserve

Arizona officials are considering continuity of government as their prime directive for the STR, with augmentation of the current reserves that are deployed throughout Arizona. As of 2009, there are five mobile communications units (MCUs) placed in strategic locations around Arizona to ensure the shortest response times. A MCU (also known as a Mobile Communications Center (MCC), Mobile Communications Vehicle (MCV), or Mobile EOC) refers to a vehicular asset that can be deployed to provide or supplement communications capabilities in an incident area. These MCUs are equipped with a variety of equipment such as subscriber and base station radios of various frequency bands, gateway devices, satellite phones, wireless computer networks, video broadcasting/receiving equipment, etc. Typically these communications devices are permanently stored in the MCUs or accompanying trailers when not in use.

When deployed, the vehicles are staffed by NIMS qualified communications personnel. From the time a call is placed to the time the asset is deployed on location is generally within three hours. For further information on the STR, see Strategic Initiative 5.8.3.4.

4.3.6 CASM

Arizona intends to fully utilize the existing CASM tool to better inventory its equipment. At present, various public safety and service agencies/organizations within the two UASIs in Arizona use CASM to document interoperability assets. For example, Pima County has populated their CASM information (but is the only jurisdiction within the Tucson UASI to have done so).

As of 2009, the CASM software has been expanded to enable a statewide view and Arizona anticipates partnering with localities to expand the population of this tool on a statewide basis.

4.3.7 Identified Technology Gaps

As TICPs are developed statewide, the capabilities of available assets and their best incident/event support applications will become more apparent. In addition, salient information from the TCA will be incorporated into future versions of this SCIP and should provide additional information relevant to identified technological areas for improvement.

As of 2009, stakeholders have identified some technology gaps of note. Specifically, Arizona faces:

1. Coverage limitations in remote areas, including but not limited to:
    - Remote areas of Pinal county
    - Western Pima County
    - Tohono O'Ohdom Indian Nation
    - Westside of the Huachuca Mountains, north of I-10 to the County line, and the Portal area in the eastern part of Cochise County
    - Young and Tonto Basin in remote Gila County
    - Aravaipa Canyon/Klondyke area of Graham County
    - Several remote areas of Greenlee County
    - The Four Corners Area
    - The Arizona Strip
2. Several systems and component assets identified as at, or nearing, end of life, for example the statewide DPS Microwave backbone.

3. Establishing usable, robust, and reliable interconnects between the systems operating within Arizona.

Resolutions to these gaps will be charted through the strategic initiatives identified below in Section 5.7.

4.4 Training and Exercise

There are two types of training and exercise plans in Arizona. The first type of training occurs at the local jurisdictional and discipline level, covering job basics, roles, and responsibilities.

The second type of training and exercise program is conducted on a statewide level. Arizona's statewide training programs create training opportunities for federal, state, local, and tribal entities. For example, these programs offer public safety and service agencies/organizations classes that are multi-disciplinary and/or multi-jurisdictional, and that are designed to include federal, state, local, and tribal entities[33]. These programs are conducted in accordance with Federal Emergency Management Agency (FEMA)-approved training and exercise methodologies.

ADEM has an outreach program for training[34] and exercises[35], and offers FEMA Emergency Management Institute (EMI) programs, which include:

1. ICS
2. NIMS
3. Professional Development Series
4. Advanced Professional Series

4.4.1 General Exercise Programs

Local, regional, and state entities across Arizona conduct public safety exercises to assess the effectiveness of training programs, demonstrate required job skills, practice coordinating with response partners, and test equipment, processes, and/or procedures.

In recent years, Arizona public safety and service agencies/organizations have participated in noteworthy exercise opportunities which emphasized interoperable communications. For example:

1. **October 2007**: Arizona participated in the national-level Top Officials 4 (TOPOFF-4) exercise. TOPOFF-4 was used as an opportunity for Arizona to learn more about issues that are driving the nation's defense priorities as well as learning more about the state's vulnerabilities.
2. **February 2008**: Arizona responders engaged in numerous exercises in preparation for hosting Super Bowl XLII. These exercises helped hone response protocols and communication plans.
3. **June 2009**: The Yuma Region conducted an interoperable communications-focused Tabletop Exercise designed to identify and inform policies, procedures, plans, available assets, and capability gaps of communications systems used by regional agencies in response to a multi-jurisdictional event.

[33] http://www.dem.azdema.gov/preparedness/trainingcalendar/webcal.html
[34] http://www.dem.azdema.gov/preparedness/training/training.html
[35] http://www.dem.azdema.gov/preparedness/exercise/exercise.html

4.4.2 COML Training Curriculum

Specific to interoperable communications, Arizona is actively engaged in providing All Hazards Type III Communications Unit Leader (COML) course opportunities for public safety professionals statewide. The All-Hazards Type III COML class provides DHS approved NIMS compliant instruction to train emergency responders on how to serve as Communications Unit Leaders during emergency operations. COML training will qualify emergency responders to lead ICS communications units provided they possess the necessary prerequisites, including knowledge of the following: local communications, communications systems, and regional, state, and local communications plans.

COML responsibilities include developing plans for the effective use of incident communications equipment and facilities, managing the distribution of communications equipment to incident personnel, and coordinating the installation and testing of communications equipment. Students must meet a series of prerequisites and, upon completion of formal classroom training, students must complete, and have signed off, a comprehensive position-specific All Hazards Type III COML Task Book before they can be certified by Arizona as an All Hazards Type III COML[36]. Additional information on this training program is currently under development (see Strategic Initiative 5.8.4.1).

4.4.3 State Credentialing of Communications Personnel

Arizona is in the process of defining a credentialing process for All Hazards Type III COMLs and other members of the Communications Unit (e.g., Radio Operators, Communications Technicians, etc.). For further information on this on-going process, see Strategic Initiative 5.8.4.1.

As of 2009, the Arizona State Land Department teaches and provides credentials for Wildland Fire COML and Communications Unit Technician (COMT) classes through the National Wildfire Coordinating Group (NWCG).

4.4.4 AIRS Training Curriculum

The PSIC Office is developing a plan to provide AIRS training programs for public safety and service agencies/organizations across Arizona. Further information on this training program can be found in Strategic Initiative 5.8.4.1.

4.4.5 Identified Training Gaps

Arizona has identified the following training gaps:

1. Lack of a multi-year, statewide, comprehensive communications training and exercise plan
2. Lack of a formal credentialing process for communications personnel
3. Need to develop additional training programs/curriculum in various statewide communications assets including AIRS, shared interoperability channels, STR equipment, etc.

Resolutions to these gaps will be charted through the strategic initiatives identified below in Section 5.7.

[36] http://www.azgita.gov/psic/library/coml/default.htm

4.5 Usage

Public safety and service professionals become more proficient and more accurate with their communications equipment as they use that equipment more frequently.

4.5.1 Recurring Planned Events

Arizona hosts numerous local, statewide, national, and international recurring sporting, civic, and fundraising planned events. As was the case with Arizona's successful hosting of Super Bowl XLII in 2008, these events often pose significant communications challenges for the state's public safety and service agencies/organizations.

4.5.2 Local Interoperability Usage

The use of interoperable communications within Arizona is routine and handled at a jurisdictional level rather than as an over-arching statewide process. For example, areas utilizing shared radio systems possess the ability to interoperate across agencies or disciplines on a daily basis. Additionally, interoperable communications are routinely used in support of planned events (e.g., large scale sporting events, civic festivals, etc.).

To determine how often public safety and service agencies/organizations utilize available interoperable communications assets statewide, SCIP authors surveyed EOC directors, managers, and coordinators in 2007. At that time, all nine responding counties reported utilizing interoperable communications solutions of some variety and indicated that simpler solutions are used more frequently than complex solutions (e.g., those requiring the assistance of a technician or specialist, etc.).

AIRS

AIRS is more often used for localized emergency incidents than regional interoperability at this time. As of 2009, the DPS does not keep records showing the individual agency use of AIRS, because there is no way to accurately measure AIRS usage in its present configuration. As designed and constructed, the network does not require intervention by an operations center and there is no managing software to measure and report on usage. Individual agencies and counties, however, report using AIRS to various extents, with some regions using AIRS regularly and some areas using AIRS infrequently or virtually not at all (largely dependent on the availability of other interoperability assets in the region).

4.5.3 Testing

Testing of interoperable solutions is not presently conducted on a standardized basis; rather, equipment is tested through ad hoc procedures and at locally convenient times (e.g., during roll call, drills, exercises, etc.).

4.5.4 Identified Usage Gaps

On-going gaps regarding the regular usage of interoperability assets remain. First, as of 2009, Arizona is not collecting statistics regarding the regular testing of interoperable equipment. Failures are often found through usage or incident related failures rather than during routine checks. Second, appropriate resources such as shared channels like AIRS or components of

the STR are not used as often as would be desirable for pre-planned events, thus removing a valuable opportunities for users to increase their familiarity with these assets.

Planned resolutions to remaining usage-related gaps will be charted through the strategic initiatives identified below in Section 5.7.

5.0 STRATEGY

This SCIP establishes a plan, including strategic initiatives and supporting milestones, for identifying, developing, and overseeing governance requirements, SOPs, training, technical solutions, and short- and long-term funding sources.

5.1 Problem Definition

Arizona public safety and service agencies/organizations face interoperability challenges that are compounded by the difficult geography, topography, and population distribution across Arizona. Public safety and service professionals require the ability to communicate with one another when needed across disciplines, agencies, or jurisdictional boundaries. Recent advancements in statewide interoperability have elevated public safety communications in Arizona but, as of 2009, all regions are not able to take advantage of these advancements or fully enjoy interoperable communications appropriate to their communities. This connectivity gap can be correlated with service delays, hindered responses, and operational challenges which could potentially impact the life and/or safety of citizens and public safety professionals alike. For these reasons, statewide interoperability gaps remain a significant priority for Arizona.

5.1.1 State Funding

As with many states, Arizona is facing enormous budgetary challenges leading to uncertain long-term funding, as well as current restrictions on procurement and hiring. The lack of funding available for major infrastructure projects identified in the SCIP has hampered Arizona's ability to implement projects as planned, and has resulted in delays or modifications to project plans. In cases where funding is available, there has been a lack of resources available to adequately implement SCIP objectives due to reductions in agency personnel. In addition, while funding has been available for certain projects, new procurement requirements implemented due to the budget challenges have delayed project implementation.

State Funding Sources

- PSIC Office Appropriations
- Arizona Division of Emergency Management (ADEM) Appropriations
- Department of Public Safety (DPS) Appropriations
- Racketeer Influenced and Corrupt Organizations Funding (RICO)
- State Agency Users Appropriations

5.1.2 Grants Management

Arizona relies on a significant amount of grant funding and technical assistance to implement interoperable communications projects. Specifically, as of 2009, Arizona works with the following funding and technical assistance sources:

Federal Funding Sources

- State Homeland Security Grant Program (SHSGP)
- Interoperable Emergency Communications Grant Program (IECGP)
- Public Safety Interoperable Communications Grant Program (PSIC)
- Border Interoperability Demonstration Project (BIDP)
- Operation Stone Garden (OPSG)
- Urban Area Security Initiative (UASI)
- Office of Emergency Communications (OEC)
- National Governors Association Technical Assistance (NGA)
- Metropolitan Medical Response System (MMRS)
- Emergency Operations Center Grant Program (EOC)
- Emergency Management Performance Grants (EMPG)

Requests to utilize grant funding are reviewed by the SWIC in cooperation with the SAA to ensure that the funding requests align with the SCIP.

Grants are invaluable to Arizona in advancing its SCIP Implementation efforts. However, effective grants management has become increasingly difficult leading to delays in project implementation and, occasionally, less than optimal resource allocation. As Arizona works to implement its SCIP, its agencies continually advocate for changes in grant management that will allow the State to reduce delays and effectively allocate resources. Areas that can be improved include:

Money available to Arizona in federal grants – Most grants limit the amount of funding available at the state level to 20%. This limit has made it difficult to implement large scale, statewide projects that benefit local jurisdictions. In addition, it results in multiple disparate projects being implemented on a local jurisdiction level that could instead be done on a uniform statewide level to the benefit of all jurisdictions.

- **Reimbursement based funding –** The budget challenges facing states often mean that there is not enough "upfront" money to bridge the gap between when expenses are incurred and when they are reimbursed. On major interoperable communications projects this can mean delays as budgetary cash flows are juggled to meet up-front purchasing expenses.
- **Improved grant cycles –** Many interoperable initiatives are multi-year projects that involve funding over multiple grant cycles. Inconsistencies between when federal grant guidance and awards are released on a year to year basis makes it difficult to effectively manage these initiatives and properly plan resource allocation and procurements.
- **Increased application timelines and technical assistance –** Many local jurisdictions lack the experience to effectively compete for federal grants. In addition, the budget challenges facing local jurisdictions often mean they do not have the resources available to compete for grants during the short timeframe between grant guidance being issued and when applications are due. Increasing the window during which grants may be applied for, and providing additional technical assistance (such as templates and draft applications), would help to address these problems.

5.1.3 Regulatory Environment

One of the challenges Arizona has faced associated with implementing large scale interoperable communications projects is the need to conduct Environmental Impact

Assessments. In addition to the time associated with completing the assessments, local jurisdictions lack the necessary experience in when and how to develop Requests for Proposals (RFPs) associated with these assessments. As a result, implementation can be delayed by months. Technical assistance in the form of model RFP templates and project management experience would greatly enhance Arizona's ability to keep projects moving forward and avoid unnecessary delays and costs. Further, some effort should be made to redefine when such studies are actually needed rather than requiring them when they are redundant of past efforts.

5.2 Interoperability Vision

Arizona is pursuing a vision for statewide interoperability that will enable public safety and service agencies/organizations to have access to quality interoperable communication systems, to be adequately trained, and to utilize such systems effectively in multi-disciplinary, multi-jurisdictional incident response.

5.3 Mission

The mission for this SCIP is to advance public safety communications interoperability statewide. Elements and strategies presented in this SCIP support this ongoing mission.

Stakeholder Engagement and Interaction

The concept of interoperability is promoted through an Outreach Program which focuses on stakeholder engagement and interaction, including open public meetings, a user-friendly website, and regular communications to interested parties. The intent of the Outreach Program is to encourage and coordinate collaborative efforts, and to identify and help address local, regional and state barriers to advancing interoperability solutions and usage.

PSIC Office Outreach Plan

The PSCC, SIEC and PSIC Office must have effective two way dialogue with stakeholders in Arizona to advance interoperability. Therefore, the goal of stakeholder engagement and interaction activities is bi-directional communication with all first responder agencies to:

- Enable the PSCC, SIEC and PSIC Office to understand the needs, desires, limitations and advances in interoperable communications statewide, and
- Identify mechanisms by which important interoperable communication information can be shared with all stakeholders by the PSCC, SIEC and PSIC Office.

Stakeholder engagement and interaction objectives include efforts to:

- Engage stakeholders throughout Arizona in efforts to advance interoperable communications, including bringing stakeholders together for mutual benefit
- Share information with stakeholders to support their efforts to make advances in interoperable communications
- Identify unmet needs statewide and begin to identify existing and future resources that could be used to address those needs
- Support stakeholders and expand knowledge by participating in training and exercise opportunities.

The vision and mission stated above support the stakeholder engagement and interaction strategies below:

- Attend or present at conferences and regional or statewide meetings, exercises and other collaborative events (e.g., Local Emergency Planning Committee (LEPC), AZ Ambulance Association, AZ Fire Districts Association, AZ Fire Chiefs, AZ Law Enforcement Pow-Wow, etc.)
- Attend discipline-specific routine meetings in each region/county
- Attend significant exercises statewide
- Meet one on one with interested parties that may benefit from interoperable communications
- Encourage regions to consider a regional systems approach via on-site stakeholder discussions
- Increase awareness of and involvement in PSCC and SIEC meetings
    - Place meeting agendas and handouts on line in advance of meetings so that stakeholders may participate effectively
    - Include a public comment section on every agenda
    - Agendize regional updates
    - At least once annually, have a day-long strategy meeting at which all members of the community can actively participate to update the goals and objectives of the SCIP
    - Explore using web conferencing solutions for key meetings to encourage broader participation.
- Hold key meetings across Arizona
- Utilize telephone calls and e-mail communications to coordinate outreach activities, respond to inquiries, share reference materials, engage in preliminary dialogue with stakeholders, and follow-up on information requests
- Foster statewide partnerships to best leverage the existing knowledge and expertise of stakeholders, share interoperable communication information with various constituencies, and provide information to the PSCC, SIEC and the PSIC Office for consideration
- Improve and more extensively utilize the GITA website to facilitate efficient and effective information sharing among statewide stakeholders.

5.4 Goals and Objectives

The goals for achieving Arizona's interoperability vision are represented by the strategic initiatives detailed in Section 5.8 below. Table 5.1 summarizes these strategic initiatives and the supporting objectives selected to further Arizona's interoperability goals. Annual progress toward achieving these initiatives is reported to OEC via the SCIP Implementation Report (see Appendix G).

Table 5.1: Arizona SCIP Initiatives

#	Section #	Strategic Initiative	Governance	SOPs	Technology	Training & Exercise	Usage & Outreach
1	5.8.1.1	**Expand & Implement Interoperable Communications Governance Model & Plan**	X				
2	5.8.1.2	**Develop Long-term Plan for Statewide Interoperability for Voice and Data**	X				
3	5.8.1.3	**Develop and Implement Long-term Funding and Sustainability Strategy for Interoperable Communications**	X				
4	5.8.2.1	**Establish a PSP Framework, and Implement PSPs, Including SOPS, for Statewide Interoperable Communications Solutions**		X			
5	5.8.3.1	**Complete AIRS by Deploying Remaining AIRS Suites**			X		
6	5.8.3.2	**Implement, Enhance and Promote Functional Regional Systems in Support of Interoperable Communications**			X		
7	5.8.3.3	**Upgrade the Statewide Microwave Backbone Infrastructure to Digital Technology**			X		
8	5.8.3.4	**Implement the State STR**			X		
9	5.8.3.5	**Upgrade Operable Communication Systems for State Agencies In Support of Interoperable Communications**			X		
10	5.8.4.1	**Develop and Implement a Training Plan to Address Interoperable Communications**				X	
11	5.8.4.2	**Develop and Implement a Strategy for Exercises Focused on or Incorporating Interoperable Communications**				X	
12	5.8.5.1	**Create and Implement an Education and Outreach Plan in Support of Interoperable Communications**					X

5.5 Scope and Timeframe

This SCIP provides a strategic approach to achieving interoperability for Arizona's public safety and service agencies/organizations. The strategic initiatives detailed in Section 5.8 span a timeframe from one to eight calendar years (2009 – 2017), depending on the initiative, and provide for short- and long-term solutions. The SCIP is not intended to address tactical operations or provide tactical response plans for public safety and service agencies/organizations. In addition, this SCIP does not constitute an emergency operations, response, or recovery plan.

5.6 National Incident Management System (NIMS) Compliance

Arizona embraces the national effort to standardize incident command. By Executive Order 2007-23[37], ADEM is charged with incorporating NIMS into existing statewide training programs and exercises, seeking federal preparedness funding sufficient to support NIMS implementation, incorporating NIMS into emergency operations plans, promoting intrastate mutual aid agreements, providing and coordinating technical assistance to local entities regarding NIMS to ensure statewide compliance, institutionalizing the use of NIMS and leading the effort to achieve statewide NIMS compliance to ensure continued eligibility for federal homeland security grant funds (see Appendix D).

The PSCC will ensure that all future revisions and updates to the SCIP realize NIMS compliance in their structure and application. NIMS compliance will also be assessed as a funding criterion for any future SCIP-related purchases or investments.

5.7 National Emergency Communications Plan (NECP) Alignment

The NECP is the Nation's first strategic plan to improve emergency response communications. The plan includes specific goals and priorities which must be met in order to address deficiencies in the Nation's emergency communications posture. When applicable, the strategic initiatives detailed in Section 5.8 below identify the specific NECP objectives, initiatives and milestones that pertain to that initiative.

5.8 Strategic Initiatives

The Strategic Initiatives identified in this section of the SCIP were categorized along the lanes of the DHS Interoperability Continuum (Governance, SOPs, Technology, Training and Exercises, and Usage), and further reflect the following definitions.

Initiative Operational Definitions

Initiative projected completion timeline is defined as follows:

- **Short-term:** those initiatives projected for completion within three years from the acceptance of the SCIP
- **Medium-term:** those initiatives projected for completion between three and five years from the acceptance of the SCIP
- **Long-term:** those initiatives projected for completion between six and ten years from the acceptance of the SCIP

Initiative priority is defined as follows:

- **High:** Establishes a framework to enable interoperability for public safety and service agencies/organizations; or can be accomplished through identified and available resources
- **Medium:** Builds on established foundations to enhance interoperability; or requires resources which are not immediately available

[37] http://azmemory.lib.az.us/cdm4/item_viewer.php?CISOROOT=/execorders&CISOPTR=631&CISOBOX=1&REC=12

- **Low:** Develops redundant interoperable capabilities, or requires a longer term to complete

Initiative primary participants are those agencies that have responsibility for ensuring that the objectives, action plan and performance measures for each initiative are achieved. All stakeholders are expected and encouraged to participate in the implementation of each initiative. Identified primary participants include:

- Arizona Department of Homeland Security (AZDOHS)
- Department of Public Safety (DPS)
- Elected and other senior governmental officials
- Governance Workgroup
- Local, Tribal, State and Federal agencies
- Public Safety Communications Advisory Commission (PSCC)
- Public Safety Interoperable Communications Office (PSIC Office)
- Public safety/service stakeholders statewide
- Regional partners: A single agency, or a group of agencies, with public safety / public service responsibilities involved in the planning, development or operations of an operable communications system capable of interoperable communications, and representing a geographic region in Arizona. These regions may be Homeland Security Regions (RACs), UASIs, counties, metropolitan areas, reservations or other functional regions.
- State Agency Users: Agencies of the State of Arizona that require a public safety radio communications system, and/or can benefit from and contribute to communications interoperability.
- Statewide Interoperability Executive Committee (SIEC)

5.8.1 Governance

5.8.1.1 Expand & Implement Interoperable Communications Governance Model & Plan

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
1	1.1	2
1	1.1	5
1	1.3	2
3	3.1	7
7	7.2	5

Gap Statement: In 2008, governance of interoperable communications in Arizona underwent a significant transition related to new state legislation. This transition requires revisions of and expansions to the interoperable communications governance model and plans to better reflect the desired state of governance in Arizona.

Initiative Description: This initiative is designed to expand and strengthen the statewide Arizona governance model and its fundamental system components (e.g., the PSCC, SIEC,

SWIC, State Agency Group, stakeholder resource pool, etc.) as an essential precursor to achieving other key strategic interoperability objectives.

Priority: High

Term/Timeframe: Short (2010/2011)

Lead/Owner: PSIC Office

Primary Participants:

- PSCC
- SIEC
- Governance Workgroup
- Regional partners

Action Plan:

1) Governance Model
   a. Conduct statewide stakeholder input meetings around governance issues
   b. Form and work with a Governance Workgroup under the PSCC
   c. Request technical assistance to conduct governance model assessments; execute technical assistance offerings, as awarded
   d. Participate in the NGA Policy Academy on Governance
   e. Review governance models against the OEC Governance Guide and revise/strengthen the governance model accordingly.
2) SCIP
   a. Identify funding source to support the SCIP revision effort
   b. Issue a complete task order for contractual support to execute the following SCIP revisions:
      i. Review current OEC guidance and best practices for SCIPs
      ii. Review relevant historical and planning documents provided by PSIC Office staff
      iii. Review all existing content in SCIP v1.0 for accuracy, currency and relevance
      iv. Where possible eliminate extraneous content, or replace with more concise language
      v. Review, edit and condense (or eliminate if appropriate) sections where supporting material may be moved to appendices (particularly Background - Section 2 in SCIP v1.0, and Current Statewide Assessment – Section 4 in SCIP v1.0)
      vi. Completely rewrite Strategy and Implementation sections to reflect current strategic initiatives as adopted by the PSCC
      vii. Include references to the NECP where appropriate.
   c. Submit revised drafts for PSIC Office review
   d. Submit PSIC Office-reviewed drafts for PSCC and statewide stakeholder review and approval
   e. Distribute and/or make available (via the PSIC Office website) final 2010 SCIP to appropriate stakeholders.
3) TICP and CASM
   a. Request technical assistance to develop TICPs; execute technical assistance offerings, as awarded

   b. Request technical assistance to develop Regional Interoperable Communications Plan (RICPs); execute technical assistance offerings, as awarded
   c. Seek funding for CASM population.
4) SIEC
   a. Provide the SIEC and its workgroups with defined roles, responsibilities, and objectives
   b. Reconstitute workgroup membership to improve statewide representation
   c. Incorporate workgroup teleconferences to accelerate work flow
   d. Revise PSCC and SIEC meeting schedules to optimize task flow and deliverables.

Objectives:

1) Conduct an annual review and update the SCIP as needed
2) Develop TICPs and expand the utilization of CASM (2011)
3) Strengthen the SIEC (2009).

Performance Measures:

1) Conform to updated governance approach
2) Finalize and publish an approved revised SCIP
3) Finalize and publish TICPs for defined regions
4) Populate CASM for interested entities
5) Encourage multi-jurisdictional and multi-discipline participation on SIEC workgroups
6) Ensure consistent alignment of the SCIP to the NECP.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) OEC award of technical assistance
3) Updates to SCIP, NECP, or other federal requirements
4) Participation of statewide stakeholders in technical assistance offerings
5) Sustained federal support of the CASM tool.

Funding:

- Federal
  - IECGP
  - PSIC
  - OEC
  - NGA
- State
  - PSIC Office

Potential funding

- Federal
  - SHSGP

Outreach Plan: See Sections 5.3 and 5.8.5.1.

5.8.1.2 Develop Long-term Plan for Statewide Interoperability for Voice and Data

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
None	None	None

Gap Statement: Fiscal realities in Arizona have changed to the extent that previously defined forward strategies require revision. Arizona can benefit from leveraging this SCIP to develop a cohesive statewide voice and data strategy to improve interoperable communications.

Initiative Description: Formulate a cohesive statewide voice and data interoperable communications plan.

Priority: Medium

Term/Timeframe: Short-term (2011)

Lead/Owner: PSIC Office

Primary Participants:

- Public safety/service stakeholders statewide
- Elected and other senior governmental officials
- PSCC

Action Plan:

1) Problem/Needs Analysis
   a. Define the problems facing Arizona related to voice and data interoperability
   b. Review past proposed solutions to incorporate all viable ideas and plans
   c. Identify proposed solutions.
2) Stakeholder Input
   a. Define a scope for each subordinate approach/solution
   b. Provide needs statements and inputs
   c. Identify required participants.
3) Planning
   a. Develop migration plans for moving existing technologies to newly procured technologies
   b. Develop a comprehensive Emergency Communications Plan addressing regional emergencies, catastrophic loss and mass evacuation/ingress
   c. Develop a strategic plan for coordination with neighboring states and Mexico
   d. Develop a strategic plan for addressing communications interoperability with the safety and security elements of the major transit systems in Arizona
   e. Require State Agency Users to address their data interoperability efforts in annual strategic IT plan updates.
4) Design - Research historical lessons learned/successes (e.g., from SMEs, other localities/states, etc.).
5) Develop Proposals
   a. Submit for stakeholder/SME review/feedback/recommendations
   b. Present revised proposals to the appropriate approval body(ies) for further review and approval.
6) Implement approved approaches
7) Conduct both on-going and end result evaluations.

Objectives:

1) Develop a Long-term Plan for Statewide Interoperability for Voice (2011)
2) Develop a Long-term Plan for Statewide Interoperability for Data (2011).

Performance Measures:

1) Document a consistent approach for achieving statewide voice and data interoperability.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Cooperation of stakeholders in a statewide discussion process.

Funding:

There are currently no active funding sources for this initiative.

Potential funding

- Federal
  - IECGP
  - OEC
  - SHSGP
  - UASI
- State
  - PSIC Office
  - RICO

Outreach Plan: See Sections 5.3 and 5.8.5.1.

5.8.1.3 Develop and Implement Long-term Funding and Sustainability Strategy for Interoperable Communications

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
None	None	None

Gap Statement: Arizona is facing considerable state fiscal challenges related to the current economic environment and relies on a significant amount of federal grant funding and technical assistance to implement interoperable communications projects. These allocations are not sufficient to fully meet the interoperability needs of public safety and service agencies/organizations statewide. Arizona, therefore, has identified a need to develop long-term funding plans which include sustainability strategies.

Initiative Description: This initiative is intended to develop a detailed statewide funding plan for interoperable communications projects that takes into account all known and possible funding streams, identify areas where funding is lacking, and incorporate sustainability strategies to ensure sufficient funds are available to maintain and enhance projects after their initial implementation.

Priority: Medium

Term/Timeframe: Short-term (2011)

Lead/Owner: PSIC Office

Primary Participants:

- AZDOHS
- Regional partners
- State Agency Users
- PSCC

Action Plan:

1) Problem/Needs Analysis
   a. Define the problems facing Arizona related to procuring sufficient and sustainable funding for interoperability projects
   b. Identify possible solutions.
2) Stakeholder Input
   a. Define a scope for each subordinate approach/solution.
   b. Provide needs statements and inputs
   c. Identify required participants.
3) Planning
   a. Develop funding plans for projected interoperability projects/needs statewide
   b. Develop sustainment plans which incorporate outreach, leadership support, and education elements in addition to funding requirements.
4) Design - Research historical lessons learned/successes (e.g., from SMEs, other localities/states, etc.).
5) Develop Proposals
   a. Submit for stakeholder/SME review/feedback/recommendations
   b. Present revised proposals to the appropriate approval body(ies) for further review and approval.
6) Implement approved approaches
7) Conduct both on-going and end result evaluations.

Objectives:

1) Identify known local, state, tribal, federal and/or private funding streams that could be used to support interoperability
2) Identify existing and projected interoperability projects in need of implementation and sustainment funding; determine funding requirements for each project
3) Develop a statewide long-term interoperable communications funding plan.

Performance Measures:

1) Finalize and publish a long-term statewide sustainable funding plan for interoperable communications.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Cooperation of stakeholders into a statewide discussion process.

Funding:

There are currently no active funding sources for this initiative.

Potential funding

- Federal
  - IECGP
  - OEC

  - SHSGP
  - UASI
- State
  - PSIC Office

Outreach Plan: See Sections 5.3 and 5.8.5.1.

5.8.2 SOPs

5.8.2.1 Establish a Policies, Standards, and Procedures (PSP) Framework, and Implement PSPs, Including SOPs, for Statewide Interoperable Communications Solutions

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
1	1.3	2
3	3.1	6
3	3.1	7
3	3.2	1

Gap Statement: As of 2009, Arizona does not have a statewide PSP framework regarding interoperable communications. Furthermore, although some statewide interoperable communications solutions exist and others are being planned, Arizona has not developed or implemented consistent SOPs regarding the use of those solutions and has not developed templates to ensure that future SOPs are developed in a consistent manner.

Initiative Description: In order to fully coordinate interoperable communications statewide, Arizona needs to establish a reliable PSP framework that allows stakeholders to implement interoperability projects consistently across the state. This initiative promotes the development of that framework and its component SOPs and enables stakeholders to implement those SOPs.

Priority: High

Term/Timeframe: Short-term (2011)

Lead/Owner: PSIC Office

Primary Participants:

- Regional partners
- State Agency Users
- SIEC

Action Plan:

1) Problem/Needs Analysis
   a. Identify the deficiencies statewide impacting the establishment of a PSP framework and associated SOPs in support of interoperable communications
   b. Identify possible solutions.
2) Stakeholder Input
   a. Define a scope for each subordinate approach/solution
   b. Provide needs statements and inputs..
3) Planning
   a. Develop a PSP framework for statewide interoperability
   b. Develop SOP and other templates to promote procedural consistency within Arizona
   c. Develop needed SOPs.
4) Design - Research historical lessons learned/successes (e.g., from SMEs, other localities/states, etc.).
5) Develop Proposals

   a. Submit for stakeholder/SME review/feedback/recommendations
   b. Present revised proposals to the appropriate approval body(ies) for further review and approval.
6) Implement approved approaches
7) Conduct both ongoing and end result evaluations.

Objectives:

1) Develop a statewide interoperable communications PSP Framework
2) Develop consistent interoperable communications SOPs and SOP templates
3) Implement developed SOPs statewide.

Performance Measures:

1) Finalize and publish a PSP Framework for interoperability within Arizona
2) Finalize and publish approved interoperable communications SOP templates for stakeholder use
3) Finalize and publish approved SOPs related to statewide interoperable communications solutions (e.g., shared channels, STR assets, etc.).

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Cooperation of stakeholders in a statewide discussion process
3) OEC award of technical assistance.

Funding:

- Federal
  - IECGP
  - OEC
  - NGA
- State
  - PSIC Office
- **Outreach Plan:** See Sections 5.3 and 5.8.5.1.

5.8.3 Technology

5.8.3.1 Complete AIRS by Deploying Remaining AIRS Suites

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
3	3.1	6

Gap Statement: AIRS radio frequencies are designed to be used in the event of a multi-agency operation requiring the use of common state radio channel(s), specifically for the purpose of coordinating activities during identified incidents. Additional AIRS installations and enhancements are required to provide statewide coverage and access to this solution.

Initiative Description: Arizona's short-term strategy includes expansion of AIRS coverage in order to provide a basic level of interoperability through national and state interoperability channels. AIRS supports VHF, UHF, and 800 MHz frequencies used throughout Arizona, with a cross-band repeater configuration that allows communication between bands.

Priority: High

Term/Timeframe: Short-term (2011)

Lead/Owner: DPS/WSB

Primary Participants:

- Local agencies
- SIEC

Action Plan:

1) Identify coverage and/or usage gaps
2) Identify appropriate locations for AIRS assets (e.g., suite/tower locations, etc.)
3) Configure appropriate AIRS assets for deployment
4) Test designated AIRS assets prior to deployment
5) Deploy assets to designated location(s)
6) Ensure deployed assets are operational.

Objective:

1) Provide AIRS coverage for each of the 15 Arizona counties.

Performance Measures:

1) Deploy a minimum of one AIRS suite for each county (2010)
2) Deploy additional identified suites with existing resources (2010)
3) Deploy additional coverage solutions (2011).

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Access to suite locations and assets
3) Identification of long-term maintenance and sustainability resources
4) Cooperation of local agencies and users.

Funding:

- Federal
  - SHSGP
  - PSIC
- State
  - DPS – While there is no dedicated funding source, DPS has assumed responsibility for funding the maintenance and operations of AIRS equipment
- Local – Certain AIRS recipient agencies are responsible for funding the facilities to host AIRS suites

Outreach Plan: Utilize existing statewide relationships to enable AIRS deployments in each county. Update the PSCC and SIEC on initiative progress.

5.8.3.2 Implement, Enhance and Promote Functional Regional Systems in Support of Interoperable Communications

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
None	None	None

Gap Statement: Although some robust regional systems exist (see Appendix H) and other systems are under development, many areas within Arizona do not have access to regional shared systems and currently operate on individual agency systems. Lack of or inadequate connectivity between systems hinders interoperability.

Initiative Description: Arizona has identified the linking of regional systems with one another and with state systems as the primary mechanism to facilitate interoperability statewide. This initiative is designed to support the development of those component systems.

Priority: High

Term/Timeframe: Long-term

Lead/Owner: Regional Partners

Primary Participants:

- PSIC Office
- State Agency Users
- PSCC
- SIEC

Action Plan:

1) Problem/Needs Analysis
   a. Define the problems facing Arizona related to developing robust and sustainable regional systems that serve as foundational elements for statewide interoperable communications
   b. Identify possible solutions.
2) Stakeholder Input
   a. Define a scope for each subordinate approach/solution
   b. Provide needs statements and inputs
3) Planning
   a. Develop funding plans for projected regional system projects/needs statewide

   b. Develop sustainment plans which incorporate outreach, leadership support, and education elements in addition to funding requirements.
4) Design - Research historical lessons learned/successes (e.g., from SMEs, other localities/states, etc.).
5) Develop Proposals
   a. Submit for stakeholder/SME review/feedback/recommendations
   b. Present revised proposals to the appropriate approval body(ies) for further review and approval.
6) Implement approved approaches
7) Conduct both on-going and end result evaluations.

Objectives:

1) Encourage partnerships in regional shared systems
2) Support the development of new regional shared systems
3) Provide enhancements to existing regional shared systems
4) Develop interoperability connections between regional shared systems.

Performance Measures:

1) Participate in and/or facilitate meetings to foster regionalization of public safety/service communications
2) Pursue grant funding and technical assistance to promote developing new and enhancing existing regional shared systems
3) Provide outreach and education to encourage productive discussion regarding the benefits and challenges of regionalized communications strategies
4) Implement interoperable communications between users of neighboring shared systems (e.g., intersystem shared channels, etc.).

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Impact of reimbursement-based funding streams (i.e., the receiving agency's inability to "front" grant monies due to budget constraints)
3) Impact of "Home Rule" decision making and local autonomy
4) Cooperation of local agencies and users
5) Willingness of agencies to consider a regionalized approach that consolidates communications services
6) Fostering the support of appropriate elected and governmental officials
7) Impact of National Environmental Policy Act (NEPA) assessments and approvals
8) Challenges related to the technical interoperability between proprietary systems
9) OEC award of technical assistance.

Funding:

- Federal
  - SHSGP
  - IECGP
  - PSIC
  - OEC
- State
  - PSIC Office - Supports regional planning through technical assistance, outreach efforts and consulting to regional partners

- Local

Potential funding
- Federal
    - BIDP
    - OPSG
    - UASI
    - MMRS
    - EOC

Outreach Plan: See Sections 5.3 and 5.8.5.1.

5.8.3.3 Upgrade the Statewide Microwave Backbone Infrastructure to Digital Technology

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
None	None	None

Gap Statement: The current statewide microwave network is owned, operated, engineered, and maintained by the DPS and provides microwave connectivity for local, state, and federal public safety and/or service agencies throughout Arizona. Although built primarily to support State agency radio systems, many other agencies use some portion of its capacity.

In order for the statewide microwave network to continue to provide the infrastructure needed to support its mission, an upgrade of the microwave backbone to digital technology is required. A digital backbone must be in place for Arizona to implement a modern, standards-based, interoperable public safety radio communications system for the state.

Initiative Description: This initiative is designed to support the move from the current analog microwave system to a digital microwave system.

Priority: High

Term/Timeframe: Long-term (2017)

Lead/Owner: DPS/WSB

Primary Participants:

- Local agencies
- Tribal agencies
- State Agency Users
- Federal agencies

Action Plan:

1) Identify connectivity gaps
2) Identify alternate routing and site options
3) Complete necessary site/tower modifications
4) Acquire necessary microwave infrastructure
5) Configure microwave infrastructure for deployment
6) Test associated microwave equipment prior to deployment
7) Deploy equipment to designated location(s)

8) Ensure completed loop connectivity.

Objectives:

1) Complete the Microwave Southern Loop Connectivity (2010)
2) Complete the Microwave Western Loop Connectivity (subject to funding availability)
3) Complete the Microwave Northern Loop Connectivity (subject to funding availability).

Performance Measures:

1) Complete Southern Loop digital capability and redundancy
2) Complete Western Loop digital capability and redundancy
3) Complete Northern Loop digital capability and redundancy.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Access to and integrity of physical infrastructure elements to support the microwave equipment
3) Identification and procurement of new infrastructure sites
4) Spectrum availability and licensing
5) NEPA assessments and approvals
6) Identification of long-term maintenance and sustainability resources
7) Cooperation of federal, state, local, and tribal agencies.

Funding:

- Federal
  - SHSGP
  - PSIC
- State
  - DPS
- Local

Potential funding
- Federal
  - OPSG
  - UASI

Outreach Plan: Utilize existing and develop new statewide partnerships to enable microwave upgrades. Update the PSCC and SIEC on initiative progress. Provide required updates to GITA, the AZDOHS, and the Joint Legislative Budget Committee (JLBC). Periodically update regional partner groups on microwave upgrade progress.

5.8.3.4 Implement the State Strategic Technology Reserve (STR)

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
7	7.2	5

Gap Statement: Key state officials need a reliable redundant communications system among and between themselves and the agencies relying on them for decisions in times of emergency. Arizona officials consider the continuity of government (COG) as the prime

directive for the STR, with augmentation of the current reserves that are deployed throughout Arizona. In addition, implementation of the STR is a mandatory requirement for the National Telecommunications and Information Administration (NTIA) PSIC Grant (period of performance 2008-2010).

Initiative Description: This initiative is designed to sustain telecommunications capabilities during emergencies that may involve communication outages affecting existing commercial and non-commercial telecommunication services. This initiative equips MCUs with interoperable communications equipment (e.g., subscriber radios, base stations, gateways, satellite phones, etc.) and information technology equipment (e.g., laptop computers, etc.) that can be deployed to provide or supplement communications capabilities and governmental operations to an incident area. Furthermore, this initiative equips caches in support of COG efforts as needed.

Priority: High

Term/Timeframe: Short-term (2010)

Lead/Owner: ADEM

Primary Participants:

- State Officials
- Capitol Police
- County Emergency Managers

Action Plan:

1) Identify gaps in COG communications
2) Identify possible solutions
3) Develop STR plan
4) Develop the RFP
5) Receive bidder proposals
6) Evaluate proposals against RFP criteria (e.g., price, experience, recurring expenses, timelines, etc.) and award the winning contract(s)
7) Complete and issue the required purchasing orders
8) Configure, program, and deploy received equipment
9) Complete training on use and maintenance of equipment.

Objectives:

1) Pre-position and secure mobile interoperable communications assets for immediate deployment to impacted areas statewide in an emergency or major disaster
2) Provide redundant communications assets which can reconstitute basic public safety/service communications in the event of a catastrophic communication failure
3) Augment COG capabilities by providing a reserve of communications assets to government officials.

Performance Measures:

1) Establishment of multiple communications pathways between key governmental officials and key emergency management officials
2) Deployment of all equipment purchased and dedicated to the STR
3) Demonstrate the ability to mobilize and activate STR equipment to impacted sites within a reasonable time frame.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Identification of long-term maintenance and sustainability resources
3) Marketing the availability and applicability of STR resources
4) Delays in radio equipment procurement and/or delivery.

Funding:

- Federal
  - PSIC
- State
  - ADEM
- Local – STR recipient agencies are responsible for funding training, maintenance and operations of STR equipment

Outreach Plan: Actively engage emergency planning and communications groups statewide through briefings on the capabilities and limitations of the STR, including access and deployment procedures. Ensure that STR equipment and request procedures are consistently documented in all statewide emergency response plans, COG plans, and TICPs.

5.8.3.5 Upgrade Operable Communication Systems for State Agencies In Support of Interoperable Communications

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
None	None	None

Gap Statement: Existing public safety Land Mobile Radio (LMR) communications systems for Arizona State agencies are nearing end-of-life, requiring significant updates and/or replacement in order to maintain connectivity and service for users and compliance with state and federal communications standards (e.g., narrowbanding, etc.) in support of interoperability.

Initiative Description: Develop and implement a plan to provide State agencies with continued access to operable public safety/service LMR communications that includes migrating from existing end-of-life resources to sustainable solutions capable of establishing interoperability among State agencies and with federal, local, and tribal public safety and service agencies/organizations.

Priority: High

Term/Timeframe: Long-term

Lead/Owner: DPS/ WSB

Primary Participants:

- State Agency Users

Action Plan:

1) Form the State Agency Group
2) Problem/Needs Analysis
   a. Define the communications problems facing State Agency Users
   b. Identify possible solutions.
3) Stakeholder Input
   a. Define a scope for each subordinate approach/solution

   b. Provide needs statements and inputs
4) Planning
   a. Develop funding plans for needed State agency systems or equipment enhancement
   b. Develop implementation/migration plans for proposed State agency solutions
   c. Develop sustainment plans which incorporate outreach, leadership support, and education elements in addition to funding requirements.
5) Design - Research historical lessons learned/successes (e.g., from SMEs, other localities/states, etc.).
6) Develop Proposals
   a. Submit for stakeholder/SME review/feedback/recommendations
   b. Present revised proposals to the appropriate approval body(ies) for further review and approval.
7) Implement approved approaches
8) Conduct both on-going and end result evaluations.

Objectives:

1) Develop a plan to provide State Agency Users with continued access to operable public safety/service LMR communications in support of statewide interoperability
2) Implement immediate solutions to enhance operable communication systems for State Agency Users in support of interoperable communications
3) Implement upgrades to operable communication systems for State Agency Users in support of interoperable communications.

Performance Measures:

1) Develop a plan to provide State Agency Users with continued access to operable public safety/service LMR communications in support of statewide interoperability.

Critical Success Factors/Risks:

1) Completion of the statewide digital microwave network
2) Availability of resources (e.g., funding, staffing, equipment, etc.)
3) Spectrum availability and licensing
4) Identification of long-term maintenance and sustainability resources.

Funding:

There are currently no active funding sources for this initiative.

Potential funding

- Federal
  - SHSGP
  - UASI
  - IECGP
  - PSIC
  - OPSG
  - OEC
- State
  - State Agency Users
  - ADEM
  - DPS

- PSIC Office
- RICO
- Other

Outreach Plan: Utilize strong existing relationships in the formation of the State Agency Group. Update the PSCC and the SIEC on initiative progress. Provide required updates to GITA, the AZDOHS, and the JLBC.

5.8.4 Training and Exercise

5.8.4.1 Develop and Implement a Training Plan to Address Interoperable Communications

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
1	1.3	2
3	3.1	7
3	3.2	1
7	7.2	4

Gap Statement: Arizona recognizes a need to coordinate communications-focused training opportunities statewide in order to ensure that appropriate users and stakeholders achieve and maintain mission critical interoperable communications competencies.

Initiative Description: This initiative seeks to develop a statewide interoperable communications training plan for Arizona.

Priority: Medium

Term/Timeframe: Short-term (2011)

Lead/Owner: PSIC Office / Regional partners

Primary Participants:

- ADEM
- Regional partners
- Local agencies
- State agencies
- Tribal agencies
- Federal agencies
- SIEC

Action Plan:

1) Conduct a statewide communications-focused training and exercise needs analysis
2) Evaluate existing regional training plans
3) Develop a statewide Training and Exercise Plan (T&EP)
    a. Execute regional communications-focused Training and Exercise Plan Workshops (T&EPW)
    b. Execute a statewide communications-focused T&EPW which incorporates the regional T&EPs into a statewide T&EP.
4) COML/COMT
    a. Identify SMEs for a COML Initiative Working Group and define the Group's objectives; create the COML Initiative Working Group
    b. Incorporate future COML and COML Train the Trainer course offerings into the multi-year T&EP
    c. Create a uniform tracking system for COML credentials
    d. Create a statewide process for reviewing candidate competency prior to COML signoffs
    e. Address COMT training and credential protocols as federal training opportunities are developed and offered.

5) AIRS Training
   a. Identify SMEs who can participate in the development of an AIRS training program
   b. Develop AIRS protocols
   c. Develop AIRS training curriculum
   d. Develop AIRS training materials
   e. Deliver AIRS training curriculum and materials to end users statewide
   f. Develop a sustainable AIRS training program in order to perpetuate AIRS training
   g. Incorporate AIRS training into the multi-year T&EP.

Objectives:

1) Develop regional multi-year communications-focused T&EPs
2) Develop a statewide multi-year communications-focused T&EP
3) Develop and implement AIRS training statewide
4) Implement a COML Training Program and determine a credentialing protocol
5) Implement a COMT Training Program and determine a credentialing protocol.

Performance Measures:

1) Regions finalize and publish multi-year communications-focused T&EPs
2) Finalize and publish a statewide multi-year communications-focused T&EP which incorporates existing regional T&EPs into a statewide T&EP.
3) Document an Arizona approach to COML training, credentialing, and tracking
4) Document an Arizona approach to COMT training, credentialing, and tracking
5) Develop and implement AIRS training statewide
6) Finalize and publish AIRS training curriculum and materials.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Cooperation of stakeholders
3) Availability of technical assistance.

Funding:

- Federal
  - IECGP
  - OEC
  - UASI
- State
  - ADEM
  - PSIC Office
- Local

Outreach Plan: See Sections 5.3 and 5.8.5.1.

5.8.4.2 Develop and Implement a Strategy for Exercises Focused On or Incorporating Interoperable Communications

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
1	1.3	2

NECP Objective	NECP Initiative	NECP Milestone
3	3.1	7
3	3.2	1
7	7.2	4

Gap Statement: Although exercise offerings vary at the local level, Arizona has not prioritized incorporating communication capabilities into exercise opportunities statewide and would benefit from conducting additional communications-focused exercises. As of 2009, Arizona does not have a multi-year statewide comprehensive communications Training & Exercise Plan (T&EP) that incorporates interoperable communications needs or capabilities.

Initiative Description: Emphasize incorporating interoperable communications into public safety and service agencies'/organizations' exercise opportunities by developing a multi-year communications focused regional T&EPs and a consolidated statewide T&EP.

Priority: Medium

Term/Timeframe: Short-term (2012)

Lead/Owner: PSIC Office

Primary Participants:

- Regional partners
- Local agencies
- State agencies
- Tribal agencies
- Federal agencies
- ADEM
- SIEC

Action Plan:

1) Conduct a statewide communications-focused exercise needs analysis
2) Evaluate existing regional exercise plans
3) Develop a statewide Training and Exercise Plan (T&EP)
    a. Execute regional communications-focused Training and Exercise Plan Workshops (T&EPW) which identify strategies to support funding, staffing, and Corrective Action Plan (CAP) decisions within the regional T&EP
    b. Execute a statewide communications-focused T&EPW which incorporates the regional T&EPs into a statewide T&EP.

4) Coordinate exercise offerings with identified communications-focused training needs (e.g., COML task book functional exercises, etc.).

Objectives:

1) Develop regional multi-year communications-focused T&EPs
2) Develop a statewide multi-year communications-focused T&EP.

Performance Measures:

1) Regions finalize and publish multi-year communications-focused T&EPs
2) Finalize and publish a statewide multi-year communications-focused T&EP which incorporates existing regional T&EPs into a statewide T&EP.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, etc.)
2) Local and regional stakeholder interest and/or participation
3) Availability of technical assistance.

Funding:

- Federal
  - IECGP
  - OEC
  - UASI
- State
  - ADEM
  - PSIC Office
- Local

Outreach Plan: See Sections 5.3 and 5.8.5.1.

5.8.5 Usage and Outreach

5.8.5.1 Create and Implement an Education and Outreach Plan in Support of Interoperable Communications

NECP Alignment:

NECP Objective	NECP Initiative	NECP Milestone
1	1.3	2

Gap Statement: In a vast state with many remote areas and many critical public safety needs to address, it is difficult for all stakeholders to stay informed regarding critical public safety interoperable communications issues.

Initiative Description: The Education and Outreach Plan will describe the plan for encouraging collaboration and educating policy makers and practitioners on:

- Interoperability goals
- SCIP initiatives
- Best practices throughout Arizona.

The plan will also describe the roles, responsibilities and opportunities for involvement for the PSIC Office (See Section 5.3), the PSCC, regional partners and all federal, state, local, and tribal agencies in the implementation of the statewide plan.

Priority: Medium

Term/Timeframe: Short-term (2010)

Lead/Owner: PSIC Office

Primary Participants:

- Regional partners
- State agency users
- PSCC
- SIEC

Action Plan:

1) Problem/Needs Analysis
   a. Define the statewide outreach needs and gaps that, when corrected, could further the cohesiveness and effectiveness of interoperable communications in Arizona
   b. Identify possible solutions.
2) Stakeholder Input
   a. Define a scope for each subordinate approach/solution
   b. Provide needs statements and inputs.
3) Design - Research historical lessons learned/successes (SMEs, other localities/states, etc.).
4) Develop an Outreach Plan that activates regional, federal, state, local, and tribal stakeholders in support of interoperable communications
   a. Identify strategies for stakeholder involvement
   b. Submit for stakeholder/SME review/feedback/recommendations

   c. Present revised drafts to the appropriate approval body(ies) for further review and approval
5) Implement approved approaches
6) Conduct both on-going and end result evaluations.

Objectives:

1) Develop a statewide Education and Outreach Plan in support of interoperable communications that describes the plan for encouraging collaboration and educating policy makers and practitioners.
2) Actively encourage and coordinate collaborative efforts to identify and address local, regional, tribal, and state barriers to advancing interoperability solutions and usage
3) Travel to regions where interoperable communications are needed and conduct group and one-on-one meetings to understand first hand the challenges facing public safety and service agencies/organizations in advancing interoperable communications, and support stakeholders as they address these challenges
4) Develop resources for interoperable communications to showcase success stories from across Arizona
5) Develop partnerships with agency public information officers, communication managers, regional communication centers and emergency managers.

Performance Measures:

1) Recruit, hire, and engage an Outreach Manager
2) Develop partnerships with agency public information officers, communication managers, regional communication centers and emergency managers
3) Finalize and publish a statewide Education and Outreach Plan.

Critical Success Factors/Risks:

1) Availability of resources (e.g., funding, staffing, equipment, etc.)
2) Cooperation of stakeholders into a statewide discussion process.

Funding:

- Federal
  - IECGP
  - NGA
  - OEC
- State
  - PSIC Office

Outreach Plan: See Sections 5.3 and 5.8.5.1.

6.0 CONCLUSION

The Arizona SCIP provides an overview of the State of Arizona, synopsizes its demographic and geographic features, describes Arizona's public safety and service agencies/organizations, documents the current interoperability assets available statewide, notes the presence and application of current operations standards and protocols, and presents the strategic initiatives chosen to further the overall interoperability plan for the future.

NEXT STEPS

The PSIC Office is committed to developing comprehensive action/project plans to accompany each initiative detailed in this SCIP and to facilitate implementing these initiatives. Action/project plans will be available via the PSIC Office, and the PSIC Office will track progress on each initiative. Questions or inquiries regarding the detailed action/project plan for each initiative should be directed to the Arizona SWIC via the PSIC Office.

Appendix A REGIONAL AND COUNTY INFORMATION

A.1 Cities and Towns within Each County

Arizona Cities and Towns within Each County (November 2007)				
Apache County Alpine Eagar Greer Saint Johns Springerville **Cochise County** Benson Bisbee Bowie Douglas Huachuca City Pearce Sunsites Sierra Vista Tombstone Willcox **Coconino County** Flagstaff Fredonia Page Sedona Tuba City Williams **La Paz County** Bouse Ehrenberg Parker Quartzsite Salome Wenden	**Gila County** Globe Hayden Miami Payson Pine Strawberry Star Valley Winkelman Young **Graham County** Pima Safford Thatcher **Greenlee County** Clifton Duncan Morenci **Maricopa County** Avondale Buckeye Carefree Cave Creek Chandler El Mirage Fountain Hills Gila Bend Gilbert Glendale Goodyear Guadalupe Litchfield Park	**Maricopa County (Continued)** Mesa Paradise Valley Peoria Phoenix Queen Creek Scottsdale Sun City Sun City West Sun Lakes Surprise Tempe Tolleson Tonopah Wickenburg Youngtown **Mohave County** Bullhead City Chloride Colorado City Dolan Springs Kingman Lake Havasu City Oatman **Navajo County** Heber-Overgaard Holbrook Joseph City Lakeside Overgaard Pinetop-Lakeside Show Low Snowflake Taylor Winslow	**Pima County** Ajo Arivaca Catalina Green Valley Marana Oro Valley Sahuarita South Tucson Tucson **Pinal County** Apache Junction Arizona City Casa Grande Coolidge Eloy Florence Kearny Mammoth Maricopa Oracle Picacho Picacho Peak Red Rock San Manuel Superior	**Santa Cruz County** Nogales Patagonia Rio Rico Sonoita Tubac **Yavapai County** Ashfork Bagdad Black Canyon City Camp Verde Chino Valley Clarkdale Cottonwood Dewey-Humboldt Jerome Lake Montezuma Mayer McGuireville Peeples Valley Prescott Prescott Valley Rimrock Sedona (also Coconino Co) Seligman Verde Village Yarnell **Yuma County** San Luis Somerton Wellton Yuma

A.2 UASI Areas

Cities and Towns Included in the Phoenix UASI (November 2007)	
Apache Junction	Paradise Valley
Avondale	Peoria
Buckeye	Phoenix
Carefree	Queen Creek
Cave Creek	Scottsdale
Chandler	Surprise
El Mirage	Tempe
Fountain Hills	Tolleson
Gila Bend	Wickenburg
Gilbert	Youngtown
Glendale	Fort McDowell Indian Community
Goodyear	Gila River Indian Community
Guadalupe	Salt River Pima-Maricopa Indian Community
Litchfield Park	State of Arizona
Mesa	Unincorporated Maricopa County

Cities and Towns Included in the Tucson UASI (November 2007)	
Ajo	Rillito
Arivaca	Sahuarita
Catalina	Santa Rita Foothills
Corona de Tucson	Sasabe
Cortaro	Sells
Green Valley	South Tucson
Lukeville	Topawa
Mount Lemmon	Tucson
Oro Valley	Vail
Mount Lemmon	Why
Pisinemo Trading Post	

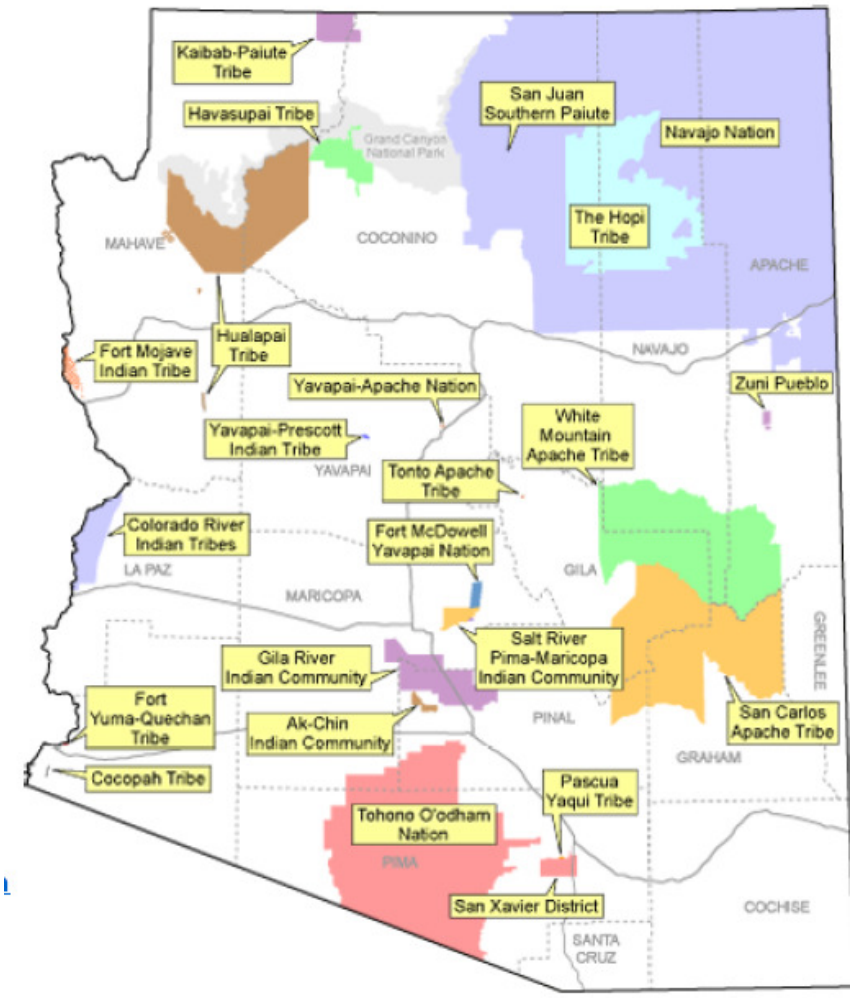
A.3 2007 SCIP Process Participating Agencies

2007 SCIP Process Participating Agencies (November 2007)
State Government Department of Emergency Management and Military Affairs Department of Health Service Department of Homeland Security Department of Public Safety Government Information Technology Agency Public Safety Communications Advisory Commission
Local Government City of Case Grande City of Mesa City of Peoria City of Yuma Cochise County EOC Coconino County EOC Coconino County Sheriff's Department Emergency Operations Centers Gila County Sheriff's Department Gila River Indian Community Gilbert Fire Department La Paz County Sheriff's Department Maricopa County EOC Maricopa County Sheriff's Department Mesa Fire Department Mohave County Phoenix Fire Phoenix Police Department Pima County Pima County Sheriff's Department Pinal County Pinal County La Paz County EOC Town of Gilbert Tucson Police Department Yavapai County Sheriff's Department
Private Companies Federal Engineering Motorola Northrop Grumman Science Applications International Corporation (SAIC) Tyco Electronics

Appendix B TRIBAL NATION POC INFORMATION

Ak-Chin Indian Community Route 2, Box 27 Maricopa, AZ 85239 http://www.ak-chin.nsn.us/	Kaibab-Paiute Tribe HC 65 Box 2 Fredonia, AZ 86022
Cocopah Indian Tribe PO Box Bin G 15th & Ave. G Somerton, AZ 85350 http://www.cocopah.com/	Pascua Yaqui Tribe 7474 S. Camino De Oeste Tucson, AZ 85746 http://www.pascuayaqui.com/
Colorado River Indian Tribes Route 1, Box 23-B Parker, AZ 85344 http://critonline.com/	Pueblo of Zuni Tribe 1203B State Hwy 53 PO Box 339 Zuni, NM 87327
Fort McDowell Yavapai Nation PO Box 17779 Fountain Hills, AZ 85269 http://www.ftmcdowell.org/	Salt River Pima-Maricopa Indian Community Rte 1, Box 216 Scottsdale, AZ 85256 http://www.saltriver.pima-maricopa.nsn.us/
Fort Mojave Indian Tribe 500 Merriman Ave Needles, CA 92363 (The Fort Mojave reservation is on both sides of the Arizona-California border) http://www.fortmojave.com/	San Carlos Apache Tribe PO Box O San Carlos, AZ 85550 http://www.sancarlosapache.com/
Fort Yuma-Quechan Tribe PO Box 11352 Yuma, AZ 85364	San Juan Southern Paiute Tribe PO Box 1989 Tuba City, AZ 86045
Gila River Indian Community PO Box 97 Sacaton, AZ 85247 http://gric.nsn.us/	Tohono O'odham Nation: PO Box 837 Sells, AZ 85634
Havasupai Tribe PO Box 10 Supai, AZ 86435 http://www.havasupaitribe.com/	Tonto Apache Tribe Tonto Apache Reservation #30 Payson, AZ 85541 http://www.tontoapache.com/
Hopi Tribe PO Box 123 Kykotsmovi, AZ 86309 http://www.hopi.nsn.us/	White Mountain Apache Tribe PO Box 700 Whiteriver, AZ 85941 http://www.wmat.nsn.us/
Hualapai Tribe PO Box 179 Peach Springs, AZ 86434	Yavapai-Apache Nation PO Box 348 Prescott, AZ 86322 http://www.yavapai-apache-nation.com/
Navajo Nation PO Box 9000 Window Rock, Arizona 86515 http://www.navajo.org/	Yavapai-Prescott Indian Tribe 530 E. Merritt Street Prescott, AZ 86301 http://www.ypit.com/

Arizona Lands of Federally Recognized Tribes



last updated *26 Jan. 2005*

Figure B - 1: Lands of Federally Recognized Tribes[38] (January 2005)

[38]Arizona Commission of Tribes; http://www.indianaffairs.state.az.us/

Appendix C UASI POC INFORMATION

The Phoenix UASI

Primary and Alternate Points of Contact (POCs) for Communications are:

Phoenix UASI Primary Communications POC:

Name:	Jesse W. Cooper
Title:	Communications/IT Manager, Phoenix Police Department
Address:	100 E. Elwood Street, Phoenix, Arizona, 85040-1071
Office:	(602) 534-0315
Mobile:	(602) 768-4314
E-mail:	jesse.cooper@phoenix.gov

Phoenix UASI Alternate Communications POC:

Name:	Michael G. Worrell
Title:	Captain, Phoenix Fire Department
Address:	150 S. 12th Street, Phoenix, Arizona, 85034
Mobile:	(602) 370-5232
E-mail:	mike.g.worrell@phoenix.gov

The Tucson UASI

Primary and Alternate Points of Contact (POCs) are:

Tucson UASI Primary POC is:

Name:	Wes J. Dison
Title:	Commander, Tucson Police Department
Address:	1100 S. Alvernon Way Tucson, AZ 85711
Office:	(520) 520-837-7379
E-mail:	wes.dison@tucsonaz.gov

Tucson UASI Alternate POC:

Name:	David Azuelo
Title:	Commander, Tucson Police Department City of Tucson, Office of Emergency Management & Homeland Security
Address:	1100 S. Alvernon Way Tucson, AZ 85711
Mobile:	(520) 837-7378
E-mail:	david.azuelo@tucsonaz.gov

Appendix D EXECUTIVE ORDER 2007-23

EXECUTIVE ORDER 2007-23

Designation of the National Incident Management System (NIMS) as the Basis for all Incident Management in Arizona (Amending Executive Order 2005-08)

WHEREAS, in Homeland Security Presidential Directive, the President of the United States directed the Secretary of the Department of Homeland Security to develop and administer a National Incident Management System (NIMS), which would provide a consistent nationwide approach for Federal, State, local, and tribal governments to work together more effectively and efficiently to prevent, prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity; and

WHEREAS, it is necessary and desirable that all Federal, State, local, and tribal emergency agencies and personnel coordinate their efforts to effectively and efficiently provide the highest levels of incident management; and

WHEREAS, to facilitate the desired levels of incident management it is critical that Federal, State, local, and tribal organizations use standardized terminology, standardized organizational structures, interoperable communications, consolidated action plans, unified command structures, uniform personnel qualification standards, uniform standards for planning, training, and exercising, comprehensive resource management, and designated incident facilities during emergencies or disasters; and

WHEREAS, the NIMS standardized procedures for managing personnel, communications, facilities and resources will improve the State's opportunities for federal funding to enhance local and state agency readiness, maintain first responder safety, and streamline incident management processes; and

WHEREAS, federal guidelines for homeland security grant funding for federal fiscal year 2006 and beyond require NIMS compliance as a condition of eligibility; and

WHEREAS, the National Commission on Terrorist Attacks (9-11 Commission) recommended adoption of a standardized Incident Command System;

NOW, THEREFORE, I, Janet Napolitano, Governor of the State of Arizona, by virtue of the authority vested in me by the Constitution and laws of this State, hereby order and direct as follows:

1. The National Incident Management System (NIMS) will be the State standard for incident management.

2. The Arizona Division of Emergency Management (ADEM) will lead NIMS implementation throughout Arizona.

3. ADEM shall be charged with:

Executive Order 2007-23
Page Two

a. Incorporate NIMS into existing statewide training programs and exercises;
b. Seeking federal preparedness funding sufficient to support NIMS implementation;
c. Incorporating NIMS into emergency operations plans;
d. Promoting intrastate mutual aid agreements;
e. Providing and coordinating technical assistance to local entities regarding NIMS to ensure statewide compliance;
f. Institutionalizing the use of the NIMS; and
g. Leading the effort to achieve statewide NIMS compliance to ensure continued eligibility for federal homeland security grant funds.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona.

GOVERNOR

DONE in Phoenix, Arizona this 24th of September Two Thousand Seven and of the Independence of the United States the Two Hundred and Thirty-Second.

ATTEST:

SECRETARY OF STATE

Appendix E PSCC AND SIEC MEMBERSHIP

2010 PSCC Members[39]

Name	Title	Agency
Chad Kirkpatrick	GITA Director & State CIO	Government Information Technology Agency
Joe Anderson	Assistant Chief	Bullhead City Fire Department
Michael Brashier	Communications Manager	City of Casa Grande
Amy Brooks	Captain	Apache Junction Fire Department
Pablo Duarte	Communications Director	Cochise County
David Felix	Executive Officer	Department of Public Safety
Jan Hauk	Past President	Arizona Fire District Association
Tracy Montgomery	Assistant Chief	Phoenix Police Department
Gilbert Orrantia	Director	Arizona Department of Homeland Security
Joe Pribil	Sheriff	Coconino County
Patrick Quinn	Deputy Chief	Tucson Fire Department
Kathleen Robinson	Assistant Chief	Tucson Police Department
Dan Wills		
Dewayne Woodie	Fire Chief	Ganado Fire District/EMS
Mike Worrell	Captain	Phoenix Fire Department

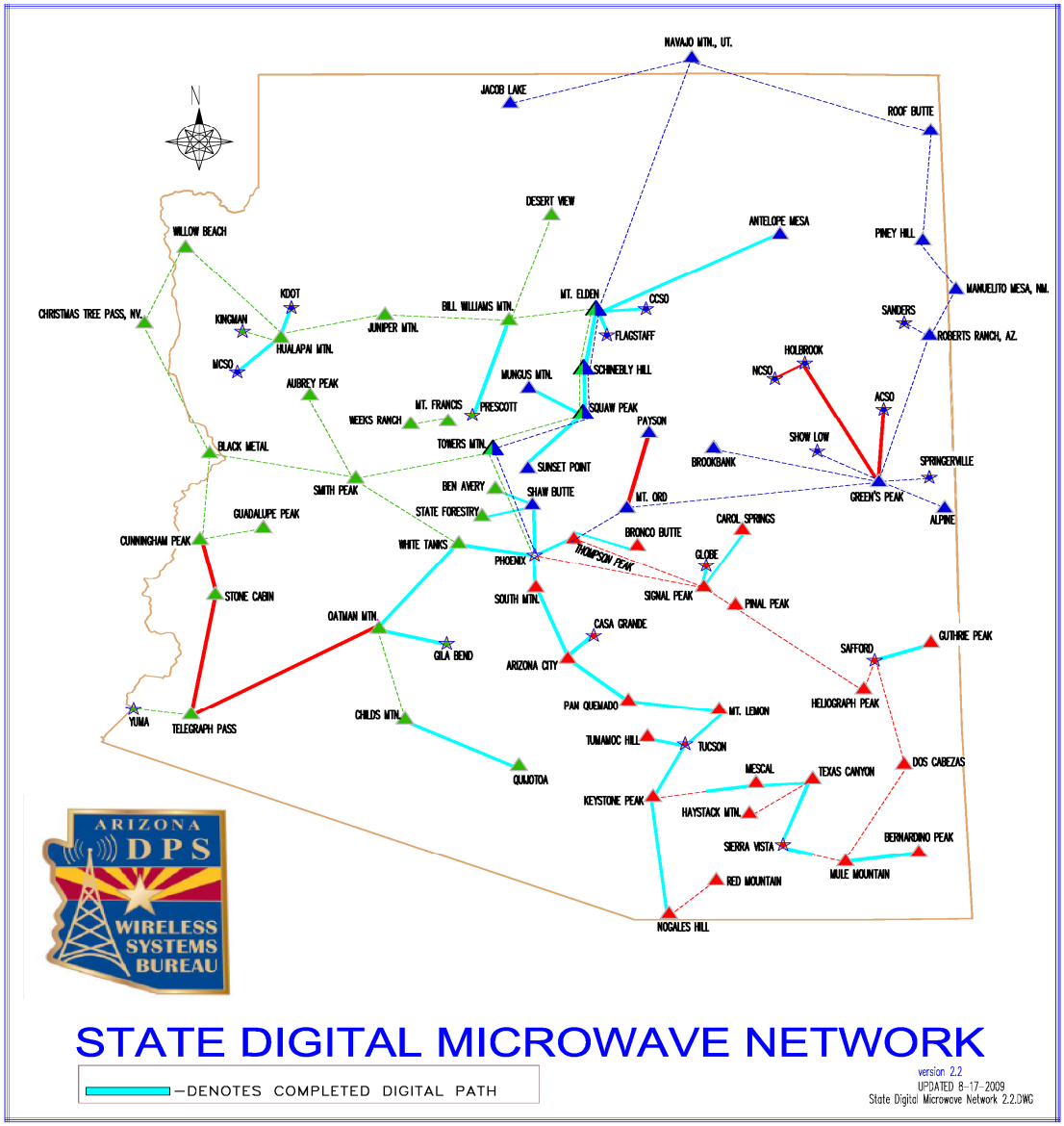
2010 SIEC Members[40]

Name	Title	Agency
Mark Venuti (Co-Chair)	Director	Guardian Medical Transport
Paul Wilson (Co-Chair)	Captain	Pima County Sheriff's Department
Scott Tillman	Supervising Telecom Engineer	AZ Department of Public Safety
Pete Weaver	Director	Maricopa County Department of Emergency Management (MCDEM)
Jesse Cooper	Communications/IT Manager	Phoenix Police Department

[39] Current as of January 2010. Please visit http://www.azgita.gov/psic for the current list of Commissioners.
[40] Current as of January 2010. Please visit http://www.azgita.gov/psic for the current list of Committee Members.

Appendix F TECHNOLOGY ASSETS

Microwave Map[41]



[41] Arizona Department of Public Safety, Wireless Systems Bureau; http://www.azdps.gov/About/Organization/Criminal_Justice_Support/Wireless_Systems/

AIRS Suite Tower Locations and Assigned PL Tones

AIRS Channel	Monitoring Agency	County Serviced	Suite Location(s)
AIRS1	Maricopa County	Maricopa	Towers Mountain Thompson Peak South Mountain White Tanks Mountain (pending replacement)
AIRS2	Pima County	Pima	Mt. Lemmon Keystone Peak
AIRS2	Santa Cruz County	Santa Cruz	Nogales Hill
AIRS2	Coconino County	Coconino	Navajo Mountain Mt. Elden Bill Williams Mountain Schnebly Hill Jacob Lake (pending)
AIRS3	Pinal County/Casa Grande PD	Gila Pinal	Signal Peak Mt. Ord (not monitored)
AIRS3	La Paz County	La Paz	Cunningham Peak (pending)
AIRS3	Yuma County	Yuma	Telegraph Pass Oatman Mountain (not monitored)
AIRS4	Navajo County	Navajo Apache	Piney Hill Roberts Ranch Greens Peak Antelope Mesa Holbrook Brookbank Point
AIRS4	Mohave County	Mohave	Willow Beach Christmas Tree Pass Hualapai Mountain Black Rock (pending)
AIRS4	Havasu PD		Lake Havasu
AIRS5	Pima County	Pima	Childs Mountain
AIRS5	DPS Tucson	Greenlee Graham Cochise	Heliograph Pass Mule Mountain Bernardino Peak Guthrie Peak
AIRS5	Sedona	Yavapai	Juniper Mountain Mingus Mountain Squaw Peak

State Agency Radio Frequency Bands[42]

STATE AGENCY RADIO FREQUENCY BANDS					
Agency	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Department of Transportation (DOT)	X			X	
Department of Public Safety		X			
Game & Fish Department	X				
Department of Corrections	X				
Department. of Juvenile Corrections	X				
Parks Board & State Land Department	X				
Department of Agriculture	X				
EMSCOM		X			
Veterans Memorial Coliseum		X			
Shared Government Operations		X			
AIRS	X	X	X		

County Sheriff Radio Frequency Bands[43]

COUNTY SHERIFF RADIO FREQUENCY BANDS					
County	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Apache County	X				
Cochise County	X				
Coconino County	X				
Gila County	X				
Graham County	X				
Greenlee County	X				
La Paz County	X				
Maricopa County				X	
Mohave County	X				
Navajo County	X				
Pima County				X	
Pinal County	X				
Santa Cruz County	X				
Yavapai County	X				
Yuma County					X

[42] Frequency Band information compiled from Southwest Frequency Directory, Arizona Region, 10th Edition: 2009.
[43] Frequency Band information compiled from Southwest Frequency Directory, Arizona Region, 10th Edition: 2009.

City Agency Radio Frequency Bands[44]

CITY AGENCY RADIO FREQUENCY BANDS					
City (By County)	VHF	UHF	800	800	800
	CONV	*CONV*	*CONV*	*TRUNK*	*P-25*
APACHE					
Eagar	X				
Springerville	X				
St. Johns	X				
COCHISE					
Benson	X				
Bisbee	X				
Douglas	X				
Huachuca City	X				
Sierra Vista	X				
Tombstone	X				
COCONINO COUNTY					
Flagstaff	X			X	
Fredonia	X				
Page	X				
Sedona	X				
Williams	X				
GILA					
Globe	X				
Hayden	X				
Miami	X				
Payson	X				
GRAHAM					
Pima	X				
Safford	X				
Thatcher	X				
GREENLEE					
Clifton	X				
LA PAZ					
Parker	X				
Quartzsite	X				
MARICOPA					
Avondale					X

[44] Frequency Band information compiled from Southwest Frequency Directory, Arizona Region, 10th Edition: 2009.

CITY AGENCY RADIO FREQUENCY BANDS					
City (By County)	VHF	UHF	800	800	800
	CONV	*CONV*	*CONV*	*TRUNK*	*P-25*
Buckeye (*migrating from)			900*		X
Chandler (*migrating from)				X*	X
El Mirage					X
Gilbert					X
Glendale				X	
Goodyear			X		
Mesa					X
Paradise Valley	X				
Peoria					700
Phoenix					X
Scottsdale (migrating)				X	
Surprise					X
Tempe					700
Tolleson			X		
Wickenburg	X				
Youngtown	X				
MOHAVE					
Bullhead City	X				
Colorado City	X				
Kingman	X				
Lake Havasu				X	
NAVAJO					
Holbrook	X				
Pinetop-Lakeside	X				
Show Low	X				
Snowflake-Taylor	X				
Winslow	X				
PIMA					
Marana					X
Oro Valley				X	
Sahuarita	X	X			
South Tucson	X				
Tucson		X			
PINAL					
Apache Junction					X
Casa Grande	X				
Coolidge	X				
Eloy	X				

CITY AGENCY RADIO FREQUENCY BANDS					
City (By County)	VHF	UHF	800	800	800
	CONV	*CONV*	*CONV*	*TRUNK*	*P-25*
Florence	X				
Kearny	X				
Mammoth	X				
Superior	X				
SANTA CRUZ					
Nogales	X				
Patagonia	X				
YAVAPAI					
Camp Verde	X				
Chino Valley	X				
Clarkdale	X				
Cottonwood	X				
Jerome	X				
Prescott	X				
Prescott Valley	X				
Sedona	X				
YUMA					
San Luis					X
Somerton					X
Wellton					X
Yuma					X
TOTAL AGENCIES BY BAND	**53**	**12**	**2**	**7**	**7**

Fire Districts Radio Frequency Bands[45]

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	VHF	UHF	800	800	800
	CONV	*CONV*	*CONV*	*TRUNK*	*P-25*
APACHE					
Alpine Fire District	X				
Concho Volunteer Fire District	X				
Eagar Volunteer Fire Department	X				
Ganado Fire District	X				
Greer Fire District		X			
Nutrioso Volunteer Fire Department					
Puerco Valley Fire-Ambulance	X	X			

[45] Frequency Band information compiled from Southwest Frequency Directory, Arizona Region, 10th Edition: 2009.

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Saint Johns Volunteer Emergency Services	X				
Springerville Volunteer Fire Department	X				
Vernon Fire District	X				
COCHISE					
Babocomari Fire District					
Benson Volunteer Fire Department	X				
Bisbee Fire Department	X				
Bowie Fire District	X				
Cascabel Volunteer Fire Department	X				
Douglas Fire Department	X				
Elfrida Fire District	X				
Fry Fire District	X				
Huachuca City Fire Department	X				
Mescal-J6 Fire District	X				
Naco Fire District	X				
North Whetstone Vol. Fire Department					
Palominas Fire Department	X				
PBW Fire District	X				
Pirtleville Fire District	X				
Pomrene Fire District	X				
Portal Fire and Rescue	X				
San Simon Volunteer Fire District	X				
Saint David Fire Department					
Sierra Vista Fire Department	X				
St. David Fire Department	X				
Sunsites Pearce Fire District	X				
Tombstone Vol. Fire Department	X				
Whetstone Fire District	X				
Willcox Fire Department	X				
Willcox Rural Fire Department	X				
COCONINO COUNTY					
Blue Ridge Fire District	X				
Camp Navajo Fire Department					
Flagstaff Fire Department	X				
Flagstaff Ranch Fire District	X				
Forest Lakes Fire District	X				
Fort Valley Fire District	X				
Fredonia Fire District					

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Grand Canyon National Park Airport Fire Department	X				
Greenhaven Fire District					
High Country Fire Rescue	X				
Highlands Fire District	X				
Junipine Fire District	X				
Kaibab Estates (West) Fire District	X				
Mormon Lake Fire District	X				
Mount Elden Fire District					
Page Fire Department	X				
Pine Del Fire District					
Pinewood Fire District	X				
Ponderosa Fire District	X				
Red Lake Fire Department					
San Jose Fire District					
Sanjo Fire District					
Sherwood Forest Estates Fire District	X				
Summit Fire District	X				
The Woods Fire District					
Tuba City Fire Department	X				
Tusayan Fire District	X				
Valle-Wood Volunteer Fire Department					
Valley Fire Rescue					
Westwood Estate Fire District					
Williams Fire Department	X				
Xantera Fire	X				
GILA					
Canyon Fire District					
Central Heights Fire District					
Christopher Kohl's Fire District	X				
East Verde Park Fire District	X				
Gisela Valley Fire District	X				
Globe Fire Department	X				
Hayden Fire Department	X				
Hellsgate Fire District	X				
Houston Mesa Fire District	X				
Miami Volunteer Fire Department	X				
Payson Fire Department	X				
Pine Strawberry Fire Department	X				

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Pleasant Valley Fire District	X				
Roosevelt Fire District	X				
Round Valley/Ox Bow Fire District	X				
San Carlos Apache Fire/EMS	X				
Tonto Basin Fire District	X				
Tri-City Fire District	X				
Whispering Pines Fire District	X				
Winkelman Fire Department	X				
GRAHAM					
Bylas Fire Department					
Fort Thomas Fire Department	X				
Graham County Vol. Fire Department					
Pima Rural Fire District	X				
Safford Rural Fire District	X				
Thatcher	X				
GREENLEE					
Clifton Fire Department	X				
Duncan Fire Department		X			
Duncan Valley Fire District		X			
Freeport McMoran Morenci Mine Fire Department	X				
LA PAZ					
Bouse Volunteer Fire District	X				
Buckskin Fire District	X				
Colorado Rivier Indian Tribe Fire Department		X			
Ehrenberg Fire District	X				
La Paz County Fire Departments	X				
McMullen Fire District	X				
Parker Volunteer Fire District	X				
Quartzsite Fire District	X				
MARICOPA					
Aguila Fire District	X				
Avondale Fire Department	X				
Buckeye Fire Department	X				
Buckeye Valley Fire District	X				
Carefree Fire Department	X				
Chandler Fire Department	X				
Circle City / Morristown Fire District	X				
Daisy Mountain Fire District	X				

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
El Mirage Fire Department	X				
Fountain Hills Fire District	X				
Gila Bend Volunteer Fire District	X				
Gilbert Fire Department				X	X
Glendale Fire Department	X				
Goodyear Fire Department	X				
Guadalupe Fire Department	X				
Harquahala Valley Fire District	X				
Laveen Fire District	X				
Mesa Fire Department				X	X
Peoria Fire Department	X				
Phoenix Fire Department	X			X	X
Queen Creek Fire Department				X	X
Rio Verde Fire District	X				
Rural/Metro - East Mesa Fire Department	X				
Rural/Metro - Litchfield Park	X				
Rural/Metro - West Maricopa	X				
Scottsdale Fire Department	X				
Sun City Fire District	X				
Sun City West Fire District	X				
Sun Lakes Fire District	X				
Surprise Fire Department	X				
Tempe Fire Department	X				
Tolleson Fire Department	X				
Tonopah Valley Fire District	X				
Tonto Hills Volunteer Fire Department	X				
Wickenburg Fire Department	X				
Wittmann Fire District	X				
MOHAVE					
Beaver Dam-Littlefield Fire District	X				
Bullhead City Fire District	X				
Colorado City Fire District	X				
Desert Hills Fire District	X				
Fort Mohave Mesa Indian Fire District	X				
Golden Shores Fire District	X				
Golden Valley Fire District	X				
Grapevine Mesa Fire District	X				
Hildale Fire Department	X				

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Kingman Fire Department	X				
Lake Havasu City Fire Department				X	
Lake Mohave Ranchos Fire District	X				
Mohave Valley Fire District	X				
Northern Arizona Consolidated Fire District #1	X				
Oatman Fire District	X				
Peach Springs Fire Department					
Pine Lake Fire District	X				
Pinion Pine Fire District	X				
Wickieup Fire District					
Yucca Fire District	X				
NAVAJO					
Chinle Community Fire Department	X				
Clay Springs-Pinedale Fire District	X				
Heber-Overgaard Fire District	X				
Holbrook Volunteer Fire Department	X				
Joseph City Fire District	X				
Kayenta Fire Department	X				
Lakeside Fire District	X				
Linden Fire District	X				
McLaws Road Fire District					
Navajo Nation Fire Department	X				
Pinetop Fire District	X				
Show Low Fire District	X				
Snowflake Volunteer Fire Department	X				
Starlight Pines Volunteer Fire Department					
Sun Valley Volunteer Fire District	X				
Taylor Fire Department	X				
White Mountain Apache Tribe	X				
White Mountain Lake Fire District	X				
Winslow Fire Department	X				
Woodruff Fire District					
PIMA					
Ajo/Gibson Volunteer Fire Department	X				
Arivaca Fire District	X				
Corona de Tucson Fire District		X			
Drexel Heights Fire District	X	X			
Elephant Head Volunteer Fire Department					

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Golder Ranch Fire District	X				
Green Valley Fire District	X				
Helmet Peak Volunteer Fire Department	X				
Hidden Valley Fire District					
Mount Lemmon Fire District		X			
Mountain Vista Fire District					
Northwest Fire District	X				
Palo Verde Fire District					
Pasco Pueblo Fire Department	X				
Picture Rocks Fire District	X				
Rincon Valley Fire District		X			
Rural/Metro Tucson	X				
Sabino Vista Fire District					
South Tucson Fire Department	X				
Tanque Verde Valley Fire District					
Three Points Fire District	X				
Tucson Country Club Estates Fire District	X				
Tucson Fire Department		X			
PINAL					
Ak Chin Fire Department	X				
Apache Junction Fire District				X	X
Arizona City Fire District	X				
Avra Valley Fire District	X				
Casa Grande Fire Department	X				
Coolidge Fire Department	X				
Dudleyville Fire District	X				
Eloy Fire District	X				
Florence Fire Department	X				
Gila River Indian Fire Department				X	X
Kearny Volunteer Fire Department	X				
Mammoth Fire District	X				
Maricopa Fire Department	X				
Oracle Volunteer Fire District	X				
Queen Valley Fire District	X				
Regional Fire and Rescue	X				
San Manuel Fire District	X				
Stanfield Volunteer Fire District					
Superior Fire Department	X				

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Thunderbird Fire District	X				
Western Fire Department	X				
SANTA CRUZ					
Nogales Fire Department	X				
Nogales Suburban Fire District	X				
Patagonia Fire Department	X				
Rio Rico Fire District	X				
Sonoita Fire District/Emergency Service	X				
Tubac Volunteer Fire District	X				
YAVAPAI					
Ash Fork Fire District	X				
Bagdad Fire Department	X				
Black Canyon Fire District	X				
Camp Verde Fire District	X				
Central Yavapai Fire District	X				
Cherry Volunteer Fire Department					
Chino Valley Fire District	X				
Clarkdale Fire District	X				
Concentrator Fire Department					
Congress Fire District	X				
Cottonwood Fire Department	X				
Crown King Fire District	X				
Fire Team Four Vol. Fire Assoc.					
Groom Creek Fire District	X				
Jerome Volunteer Fire Department	X				
Mayer Fire District	X				
Montezuma-Rimrock Fire District	X				
Peeples Valley Fire District	X				
Prescott Fire Department	X				
Sedona Fire Department	X				
Seligman Fire District	X				
Skull Valley Fire District	X				
Southern Yavapai Fire District	X				
Verde Valley Fire District	X				
Walker Fire Protection Association	X				
Williamson Valley Fire District	X				
Yarnell Fire District	X				
YUMA					

FIRE DISTRICTS RADIO FREQUENCY BANDS					
Fire District (By County)	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Rural/Metro Yuma	X				
San Luis Fire Department				X	X
Somerton-Cocopah Fire Department				X	X
Tacna Volunteer Fire Department				X	X
Wellton Fire Department				X	X
Yuma Fire Department				X	X
TOTAL AGENCIES BY BAND	**212**	**10**	**0**	**12**	**11**

Tribal Agencies Radio Frequency Bands[46]

TRIBAL AGENCIES FREQUENCY RADIO BANDS					
Tribal Nation	**VHF**	**UHF**	**800**	**800**	**800**
	CONV	***CONV***	***CONV***	***TRUNK***	***P-25***
Ak-Chin		X			
Cocopah					X
Colorado River	X				
Fort McDowell	X				
Fort Mojave	X				
Gila River					X
Hopi Resourse	X				
Hualapai	X	X			
Navajo Dps	X	X			
Pascua Yaqui			X		
Quechan	X				
Salt River	X	X			
San Carlos	X	X			
Tohono O'Odham			X		
White Mountain Apache	X				
Yavapai-Prescott	X				
Yavapai-Apache	X				

[46] Frequency Band information compiled from Southwest Frequency Directory, Arizona Region, 10th Edition: 2009.

Appendix G ARIZONA 2009 SCIP IMPLEMENTATION REPORT

Arizona

Statewide Communication Interoperability Plan (SCIP) Implementation Report

July 2009

Homeland Security

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Successes and Challenges

State evaluation of successes and challenges

Successes

1. Advances in Governance: Over the past year, Arizona was one of six states to participate in the NGA Center for Best Practices Interoperability: Focus on Governance Policy Academy to help selected states improve the governance structures overseeing statewide communications interoperability planning and implementation. Arizona was also awarded a Technical Assistance Requests (TARs) by the Office of Emergency Communications (OEC) as part of the Interoperable Communications Technical Assistance Program (ICTAP) for an assessment and of a component of its Governance structure through a review of the PSCC General Policies or Charter. Both the Academy and the Governance Structures Assessment TAR were significant contributors to improving interoperability governance as follows:

- Realigning meeting schedules for PSCC and SIEC to facilitate direction setting and accelerate processing of recommendations.
- Moving key meetings to other areas of the State and including regional updates to encourage more regional and rural participation
- Naming the PSIC Office Manager to be Arizona's first Statewide Interoperability Coordinator
- Strengthening the SIEC by reconstituting and activating its workgroups
- Integrating Subject Matter Experts from throughout Arizona into working groups and the Stakeholder Resource Pool
- Beginning formation work for a State Agency Group dedicated to advancing state agency communications interoperability
- Instituting regular meetings between the PSIC Office and its critical partner agencies
- Forming and staffing a statewide outreach program with a dedicated Outreach Manager focused on increasing participation in governance, providing education and identifying unmet needs

2. Stakeholder Engagement and Interaction: In FY2009, Arizona recognized a gap in outreach efforts and developed a PSIC outreach program to promote interoperability awareness, initiatives, and best practices throughout Arizona. In a vast State with many remote areas and many critical public safety needs to address, it is difficult for all stakeholders to attend the PSCC and SIEC meetings. Given the limited number of PSCC appointees and the formality of the public meeting structure, some members of the public safety community did not feel that their voices could be heard. The State now actively encourages and coordinates collaborative efforts and helps identify and address State, regional, and local barriers to advancing interoperability solutions and usage.

To implement the program, the State recruited an Outreach Manager responsible for stakeholder engagement; information sharing; identification of needs and resources; and participation in training and exercises. By traveling to regions where interoperable communications are needed, the Public Safety Interoperable Communications Office (PSIC) can understand first hand the challenges facing the community in advancing interoperable communications and support the regions to overcome the challenges they face. The State also developed a user friendly website to be a resource for interoperable communications training, exercises, updated information, and that showcases interoperable communication success stories from across the State.

Arizona also developed partnerships with members of the PSCC, SIEC and workgroups as well as agency public information officers, communication managers, regional communication centers and emergency managers. These partnerships have allowed the State to leverage the knowledge and expertise of many

people, to be able to share interoperable communication information with their constituencies, and at the same time bring back information to the PSCC, SIEC and the PSIC Office for consideration.

3. Communications Focused Table Top Exercise: In May 2009, the Yuma County Region conducted a successful communications specific Tabletop Exercise (OP-TTX) supported by the U.S. Department of Homeland Security (DHS) Office of Emergency Communications' (OEC) Interoperable Communications Technical Assistance Program (ICTAP). The exercise was developed in partnership with emergency responders to ensure a realistic scenario and usable results. Participants included 69 local, state and federal first responders from 21 agencies.
The discussion-based exercise focused on existing plans, policies, mutual aid agreements and procedures used while emphasizing communications capabilities and identifying gaps. The exercise included an after action debrief and report that linked each gap with an ability to complete a task, documented potential real-life implications of not filling the identified gaps, and provided mitigation recommendations. The lessons learned from the exercise will also prove valuable as the Yuma region develops their Tactical Interoperable Communications Plan (TIC-P). In addition to the direct benefits provided to the Yuma County Region, the exercise also resulted in additional guidance and experience that will be applied to future communications exercises around the State of Arizona.

4. Successful Demonstration Project: In FY2009 Arizona successfully completed a large scale interoperability project demonstrating console patch and inter-system connectivity as potential solutions to meeting the interoperable communications needs of the State. The project provided ongoing functional enhancements to existing communications systems at the regional and state level that will continue to be of value to the State. Benefits of the project include:

- Both the Phoenix Regional Wireless Cooperative (RWC, previously PRWN) and Yuma Regional (YRCS) wireless networks were expanded, providing additional capacity and coverage to those systems.
- IGAs were established / supplemented between Yuma/Phoenix and DPS, identifying specific site and channel agreements governing shared locations and use of the equipment being implemented.
- A digital microwave path was established between the White Tanks and Oatman mountain sites, extending digital microwave connectivity into Yuma County and the Western Loop of the DPS Microwave Backbone network.
- Audio patching of talk groups between the Phoenix and Yuma systems was established, utilizing consoles on those systems that were located at DPS, and this method of interoperable communications was demonstrated.
- A prototype Inter Subsystem Interface (ISSI) capable of providing interconnectivity between systems was provided by Motorola, and this method of communicating between the Phoenix and Yuma systems was demonstrated.

Challenges

1. State Funding: As with many states, Arizona is facing enormous budgetary challenges leading to uncertain long term funding, as well as restrictions on procurement and hiring. The lack of state funding available for major infrastructure projects identified in our SCIP has hampered our ability to implement these projects as planned, and has resulted in delays or modifications to project plans. In cases where funding is available, there has been a lack of resources available to adequately implement SCIP objectives due to a freeze on hiring within the State. In addition, while funding has been available for certain

projects, new procurement requirements implemented due to the budget challenges have resulted in delayed project implementation.

2. Grants Management: Arizona relies on a significant amount of grant funding and technical assistance to implement interoperable communications projects. These grants are invaluable to the State in advancing our SCIP Implementation efforts. However, effective grants management has become an increasingly difficult task leading to delays in project implementation and ineffective resource allocation. Areas that can be improved include:

- Money available to the State in federal grants: Most grants limit the amount of funding available at the State level to 20%. This has made it difficult to implement large scale, statewide projects that benefit local jurisdictions. In addition, it results in multiple projects being implemented on a local jurisdiction level, that could instead be done on a uniform statewide level to the benefit of all jurisdictions.
- Reimbursement based funding: The budget challenges facing States often mean that there is not enough "upfront" money to bridge the gap between when expenses are incurred and when they are reimbursed. On major interoperable communications projects this can often mean that projects need to be delayed. The ability for States to draw down some funds prior to incurring expenses would help speed SCIP Implementation.
- Improved grant cycles: Many interoperable initiatives are multi-year projects that involve funding over multiple grant cycles. Inconsistencies between when grant guidance and awards are released on a year to year basis makes it difficult to effectively manage these initiatives and properly plan resource allocation and procurements.
- Increased Application Timelines and Technical Assistance: Many local jurisdictions lack the experience to effectively compete for federal grants. In addition, the budget challenges facing local jurisdictions often mean they do not have the resources available to compete for grants during the short timeframe between grant guidance being issued and when applications are due. Increasing the window during which grants may be applied for, and providing additional technical assistance (such as templates and draft applications) will help to address these problems.

3. Regulatory Environment: One of the challenges Arizona has faced associated with implementing large scale interoperable communications projects is the need to conduct Environmental Impact Assessments. . In addition to the time associated with completing the assessments, local jurisdictions lack the necessary experience in developing Request for Proposals (RFP) and project plans associated with these assessments. SCIP implementation can be delayed by months. Technical Assistance in the form of model RFP templates and Project Management experience would greatly enhance the states' ability to keep projects moving forward and avoid unnecessary delays and costs. Further, some effort should be made to assure that all such studies are actually needed rather than redundant of past efforts.

State & UASI Overview

Overview of the State, its UASIs and its interoperability challenges

Arizona has a total area of approximately 118,000 square miles, which makes it the sixth largest State in the United States. There are two major desert environments: the lower desert and the high desert. Each desert has its own special set of requirements for equipment, protection, weather conditions, and environmental concerns. The major natural disasters that impact Arizona are fires and flooding.

Arizona is bordered by the States of New Mexico, Utah, Nevada, and California, and the country of Mexico. Arizona shares a 389 mile international border with Mexico that is mostly unregulated and unprotected. Major challenges exist in adequately patrolling the area due to the limited number of existing border patrol resources. Arizona has bi-national agreements with Mexico that outlines each party's mutual support role in times of emergency or disaster, and provides training and exercise opportunities.

The most economically important port in Arizona is Nogales. Nogales is one of the four primary ports of entry between the United States and Mexico. Almost $19 billion in trade comes through this port annually, with 89 percent of all surface mode trade (e.g., truck, rail) between Arizona and Mexico passing through Nogales.

Arizona's critical infrastructure is focused around water, electricity, and telecommunications. The State has more than 400 dams, of which 130 are classified as requiring critical infrastructure protection. Hoover Dam, the largest freshwater reservoir in the United States, is a major component of the State's infrastructure because of the lakes, water supply, and hydroelectric production linked to its operation. It is also a major supplier of electric power to the western grid, which includes the States of Arizona, California, and Nevada.

The Palo Verde Nuclear Generating Station, the largest nuclear power generation facility in the United States, is on 4,000 acres of land and produces over 30,000 gigawatt-hours of electricity annually to serve approximately four million people in Phoenix, Arizona, and Southern California. In addition, some of the Nation's largest defense industrial contractors have facilities located in Arizona.

Arizona's population is growing rapidly and Phoenix is one of the fastest-growing cities in the United States. Estimates show that in 2009, Arizona will be home to 6.8 million people with the Phoenix metropolitan area (Maricopa County) having a population of 4.1 million and Pima County having a population of 1 million. These two counties represent 75 percent of the State's population.

Arizona is home to 22 Federally-recognized tribes that occupy a combined landmass of approximately 25 percent (21 million acres) of the State's land. There is a significant amount of Federal land in Arizona occupying over 28,723,148 acres, which makes it important to have Federal participation in the interoperable radio systems deployed in Arizona.

Arizona has approximately 281 first responder agencies with 15 sheriff's departments, 149 police departments, 117 fire districts, and many emergency medical services (EMS) providers.

There are two Urban Area Security Initiatives (UASIs) in Arizona: Phoenix and Tucson.

Arizona's SCIP identifies one formal Tactical Interoperable Communications Plan (TICP), which was created for Phoenix. The Phoenix TICP identifies the geographical areas covered in the plan and provides a point of contact that can identify the agencies and disciplines included in

the TICP. Tucson was designated a UASI region in January 2007, and is in the process of completing a TICP. The SCIP provides a point of contact for the Tucson UASI and identifies the geographical areas encompassed by the UASI. The SCIP states that Tucson UASI officials will work closely with the PSCC in the development of their TICP which is anticipated to be completed in 2009.

The TICP Scorecard recommendations are directly or indirectly in the updated SCIP Strategic Initiatives, including:

- Initiative 1: Expand and implement Interoperable Communications Governance Model & Plan.
- Initiative 3: Develop & implement Long-term Funding and Sustainability Strategy for interoperable communications.
- Initiative 9: Establish Policies, Standards and Procedures (PSP) Framework, and implement policies, standards and procedures, including SOPs, for interoperable communications.
- Initiative 10: Develop and implement a Training Plan to address interoperable communications.
- Initiative 11: Develop and implement a strategy for exercises focused on or incorporating interoperable communications.
- Initiative 12: Create and implement an education and outreach plan in support of interoperable communications.

Vision and Mission

Overview of the interoperable communications vision and mission of the State

In the fall of 2008, the Arizona Public Safety Interoperable Communications (PSIC) Office initiated a public review process to completely revise Arizona's Statewide Communications Interoperability Plan (SCIP), initially drafted in 2007. As part of this process, multiple stakeholder working sessions were conducted to garner feedback and input from the first responder community. Over 200 participants from multiple jurisdictions and disciplines were represented during these workshops.

Based on these community forums, the Public Safety Communications Advisory Commission (PSCC) approved a revised set of strategic initiatives and supporting objectives on May 19, 2009. The revised Strategic Initiatives and Supporting Objectives can be found in Appendix A.

The PSIC Office, under the guidance of the PSCC and with support from public safety stakeholders statewide, is in the process of revising the SCIP to reflect these new strategic initiatives and the updated interoperable communications vision and mission of the State. The revised SCIP will contain initiatives which span a timeframe from one to eight years (2009 – 2017), depending on the initiative.

Vision: Arizona's public safety personnel, at all levels of government and within non-governmental organizations, have access to quality interoperable communication systems, are adequately trained, and utilize such systems effectively in multi-disciplinary, multi-jurisdictional incident response.

Mission: Advance public safety communications interoperability statewide.

Arizona outlines five key areas that must be in place to achieve its mission and vision:

1. Governance and Funding
2. Standards Operating Procedures
3. Technology
4. Training and Exercise
5. Usage and Outreach

Governance

Overview of the governance structure and funding approach

Arizona's governance is a multi-level structure established to oversee interoperable communication efforts within the State.

The Public Safety Interoperable Communications (PSIC) Office in the Government Information Technology Agency (GITA) is responsible for advancing interoperable communications in Arizona and supporting the Public Safety Communications Advisory Commission (PSCC) and Statewide Interoperability Executive Committee (SIEC) in performance of their missions.

The PSCC was organized in 2000 and established under Arizona State law in 2004. Arizona's PSCC is legislatively enabled as an advisory body for statewide interoperability efforts. It consists of 15 governor-appointed members reflecting multi-disciplinary public safety and emergency management agencies including representatives from the Arizona Department of Public Safety, police, sheriff's office, fire, EMS, communications and the Arizona Department of Homeland Security. Appointments to the Commission are made so that the existing five federal emergency response regions in the State are as equally represented as possible. The GITA Director functions in the role of Chairman for the PSCC. The PSCC meets every other month to take actions in support of interoperability statewide.

The SIEC is a sub-committee of the PSCC and is responsible for technical and operational recommendations to the PSCC. The SIEC currently has authority over 700 megahertz (MHz), very high frequency (VHF), and ultra high frequency (UHF) interoperability frequencies. The SIEC has five members: two SIEC Co-Chairs appointed by the PSCC and three members selected by the SIEC Co-Chairs. The SEIC encourages broad participation in working groups from the public safety community including State, local, tribal and non-governmental representatives. The SIEC is supported by two working groups. The SIEC Operational Workgroup evaluates and makes recommendations to the SIEC on operational policies, standards and procedures, training, exercises and outreach as well as agreements between operational entities. The SIEC Technical Workgroup evaluates and makes recommendations on technical policies, standards and procedures, VHF, UHF and 700 MHz spectrum management, and utilization of the Communications Asset and Mapping Tool (CASM).

The key functions of the PSIC Office within GITA are:

- Serving as Arizona's Interoperability Representative (SWIC) *[Note: Actively participates in a number of federal, tribal and interstate partnerships, including the Region XI Emergency Communications Working Group (RECWG), Southwest Border Working Group (SWBWG), and the Regional Four Corners initiative (R4C).]*
- Planning & Consulting
- Funding & Reporting
- Logistics & Operations
- Stakeholder Engagement & Interactions (Interoperability Outreach Manager)

Arizona established a full-time interoperability coordinator in November of 2008. The SWIC point of contact for Arizona is Lisa Dee Meyerson, Statewide Interoperability Coordinator & Manager of the Public Safety Interoperable Communications Office (PSIC), GITA.

Over the past year, Arizona was one of six states to participate in the NGA Center for Best Practices Interoperability: Focus on Governance Policy Academy to help selected states improve the governance structures overseeing statewide communications interoperability planning and implementation. Arizona was also awarded a Technical Assistance Requests (TARs) by the Office of Emergency Communications

(OEC) as part of the Interoperable Communications Technical Assistance Program (ICTAP) for an assessment and of a component of its Governance structure through a review of the PSCC General Policies or Charter. Both the Academy and the Governance Structures Assessment TAR were significant contributors to improving interoperability governance as follows:

- Realigning meeting schedules for PSCC and SIEC to facilitate direction setting and accelerate processing of recommendations.
- Moving key meetings to other areas of the State and including regional updates to encourage more regional and rural participation
- Naming the PSIC Office Manager to be Arizona's first Statewide Interoperability Coordinator
- Strengthening the SIEC by reconstituting and activating its workgroups
- Integrating Subject Matter Experts from throughout Arizona into working groups and the Stakeholder Resource Pool
- Beginning formation work for a State Agency Group dedicated to advancing state agency communications interoperability
- Instituting regular meetings between the PSIC Office and its critical partner agencies
- Forming and staffing a statewide outreach program with a dedicated Outreach Manager focused on increasing participation in governance, providing education and identifying unmet needs

The SAA for the State of Arizona is the Arizona Department of Homeland Security. The PSIC has regular meetings and conference calls with the SAA. Federal, county, tribal, and municipal leaders serve on each of the five Homeland Security Regional Advisory Councils (RACs) operating in the State, which are tasked with developing, implementing, and maintaining regional homeland security initiatives, and recommending the use of PSIC and other funds enabling communications interoperability within their regions.

The SAFECOM materials, particularly the Establishing Governance to Achieve Statewide Communications Interoperability - A Guide for SCIP Implementation are excellent resources that have and will continue to guide our Governance efforts. Additional information regarding the PSIC office, the PSCC, the SIEC and other components of our Governance Structure can be found at: http://azgita.gov/psic/

Governance Initiatives

The following table outlines Arizona's strategic Governance and Funding initiatives, gaps, owners, priority and status:

Initiative	Gap	Owner	Priority	Status *(Complete, In Progress, Not Started)*
# 1. Expand and implement Interoperable Communications Governance Model & Plan.	Governance processes must evolve and mature.	PSIC/PSCC	Short-term, High Priority	In Progress
# 2. Develop Long-term Plan for Statewide Interoperability for voice and data.	A long-term plan for implementing voice and data interoperability is needed.	PSIC/PSCC	Medium-term, Medium Priority	In Progress
# 3. Develop & implement Long-term Funding	A long-term	PSIC/PSCC	Medium-term,	Not Started

Initiative	Gap	Owner	Priority	Status *(Complete, In Progress, Not Started)*
and Sustainability Strategy for interoperable communications.	funding strategy is needed for sustainability.		Medium Priority	

Supportive Objectives for Initiative #1 - Expand Governance Model & Plan	Gap	Owner	Milestone Date	Status *(Complete, In Progress, Not Started)*
1.1. Conduct an annual SCIP review to update the plan.	Need to continually review and enhance the SCIP.	PSIC	Annual	In Progress
1.2. Develop a Comprehensive Emergency Communications Plan addressing regional emergencies, catastrophic loss and mass evacuation/ingress.	Communications is an integral part of the State's emergency planning.	PSIC	2010	Planned
1.3. Develop TICPs and utilization of CASM.	Need to formalize and manage plans and assets.	Regional Partners with Support from PSIC	2011	In Progress
1.4. Strengthen SIEC.	SIEC needs active participation from multiple jurisdictions, disciplines and regions of the state.	PSIC/PSCC/SIEC	2009	Complete

Standard Operating Procedures

Overview of the shared interoperable communications-focused SOPs

The Arizona Department of Homeland Security (AZDOHS) has oversight responsibilities to ensure State plans are NIMS compliant. Every jurisdiction in Arizona, either by ordinance or by order of the county executive, has implemented procedures to obtain and maintain NIMS and ICS compliance. An appointed NIMS compliance officer in each public safety agency is responsible for ensuring that SOPs and memorandums of understanding (MOUs) comply with NIMS and the National Response Plan.

AZDOHS and the Department of Emergency and Military Affairs (AZDEMA) assist local and tribal governments regarding NIMS compliance through regularly scheduled NIMS training courses and outreach programs. All PSIC Office staff members completed NIMS courses ICS-100.a: Introduction to Incident Command System (ICS) and ICS-700: National Incident Management System (NIMS), An Introduction this year.

Documents for coordination of statewide interoperable communications include (1) the Arizona Interagency Radio System (AIRS) State Plan, which provides guidance for the use of interoperability channels, and (2) the Arizona SIEC VHF Minimum Equipment Standards and (3) the Arizona SIEC UHF Minimum Equipment Standards, which detail minimum channel capacity, channel display, frequency range, narrowband capability, and Project 25 (P25) capability.

This year Arizona utilized one of its TARs to work with staff from ICTAP on an assessment and development of an SOP for the Arizona Interagency Radio System (AIRS). AIRS supports VHF, UHF, and 800 MHz frequencies used throughout the State, with a cross-band repeater configuration that allows communication between bands.

The outcome of this AIRS assessment was presented to the SIEC and is being used to support development of this important AIRS SOP for Arizona - due to be complete in 2009.

SOP Initiatives

The following table outlines our SOP strategic initiative, including gap, owner, priority and status:

Initiative	Gap	Owner	Priority	Status *(Complete, In Progress, Not Started)*
#9. Establish Policies, Standards and Procedures (PSP) Framework, and implement PSPs, including SOPs, for interoperable communications.	Additional standardization is needed for interoperable communications solutions operating across the State.	PSCC; SIEC	Medium-term, High Priority	In Progress

Technology

Overview of the technology approaches, current capabilities, and planned systems

Arizona operates on multiple State, regional, and local shared systems.

- The larger metropolitan areas have migrated to or are in the process of migrating to 700/800 MHz trunked P25 systems.

- State agencies operate mostly in the VHF radio band, with some in UHF and 800 MHz.

- The majority of land mobile radio (LMR) systems serving the more rural areas of the State are conventional VHF or UHF systems.

Arizona's short-term strategy includes expansion of AIRS coverage to provide a basic level of interoperability through national and State interoperability channels. AIRS supports VHF, UHF, and 800 MHz frequencies used throughout the State, with a cross-band repeater configuration that allows communication between bands. Interoperability capabilities varies from agency to agency and county to county; however, most have AIRS channels programmed in their radios. The Arizona SIEC has established a standardized nomenclature for the AIRS network mutual aid channels and related non-networked, national, and regional mutual aid channels.

Most counties also have gateway units, either mobile or at communications centers where dispatching occurs. Police and fire agencies have caches of radios to exchange during special operations, large wildfires, or task force operations. Arizona officials are considering continuity of government as its prime directive for the strategic technology reserve (STR), with augmentation of the current reserves that are deployed throughout Arizona. There are currently five mobile communications vehicles placed in strategic locations around the State to ensure the shortest response times. When deployed, the vehicles are staffed by NIMS-qualified communications personnel. From the time a call is placed to the time the asset is deployed on location is generally within three hours. Public Safety Interoperable Communications (PSIC) grants have been used to enhance existing STR assets.

Arizona is currently conducting a statewide Target Capabilities Assessment (TCA) through the Arizona Department of Homeland Security. The TCA is being done to ensure that AZDOHS is leveraging grant funds in the most efficient and effective ways to make the biggest impact on Arizona's preparedness for, response to and recovery from disasters. The TCA will provide an analysis of the State's communications capabilities as well as many other target capabilities, to identify gaps in the State's ability to prevent, respond to and recover from hazards (terrorism and man-made), and assess needs to address those gaps. The TCA will help target future funding to address these gaps.

In order to support proposed communications related technical initiatives, the State microwave system is being upgraded from analog to digital, subject to funding availability. This upgrade, being conducted by the Arizona Department of Public Safety's Wireless Systems Bureau (DPS/WSB), is critical to statewide communications interoperability in Arizona. Many local agencies utilize the microwave infrastructure from the State to support their operability and interoperability needs.

Regional system updates and updates regarding interconnections between regional systems will be included in Arizona's SCIP currently being extensively updated.

The following table lists the major State agency systems in Arizona and includes those used for operable as well as interoperable communications and wireless data networks.

State System Name	Description	Status
DPS Microwave Backbone Infrastructure	Analog technology; moving to digital; southern loop expected to be complete in 2009	Existing and being enhanced
AZ Interagency Radio System (AIRS)	VHF, UHF, 800 MHz conventional	Existing and being extended
Statewide 700 MHz System for State agencies (with possible usage by others)	P25 700 MHz digital trunked	Planned, subject to funding
Game & Fish, Dept. of Corrections, Dept. of Juvenile Correction, Parks Board & State Land Dept., Dept. of Agriculture	VHF conventional	Existing
Department of Public Safety	UHF conventional	Existing
Dept. of Transportation	VHF conventional; 800 MHz trunked	Existing
DEMA Radio Network (DRN)	VHF conventional	Existing
EMSCOM, Veterans Memorial Coliseum, Shared Government Operations	UHF conventional	Existing

Arizona is currently focused on promoting regional systems and interconnections between those systems.

Regional System Name	Description	Status
Regional Wireless Cooperative (RWC) – City of Phoenix and Surrounding Cities including Avondale, Chandler, Daisy Mountain, El Mirage, Goodyear, Guadalupe, Maricopa, Peoria, Sun City, Sun Lakes, Surprise & Tempe	800 MHz P25, simulcast trunked	Existing
TOPAZ Regional Wireless Cooperative (TRWC) – City of Mesa (TOPAZ) with partner cities of Apache Junction, Gilbert and Queen Creek.	800 MHz P25, simulcast trunked	Existing
Pima County Wireless Integrated Network (PCWIN) – Pima County; City of Tucson; Oro Valley; Marana; Tohono O'odham Tribe; Variety of fire districts - http://www.pima.gov/bonds/wireless/	800 MHz P25, simulcast trunked	In development; Expected completion 2013
Central Arizona Project	800 MHz trunked	Existing
Salt River Project	VHF conventional, UHF conventional, 900 MHz trunked	Existing
Arizona Public Service	800 MHz trunked	Existing
Northern Arizona University and City of Flagstaff	800 MHz trunked	Existing
Yuma Regional Communications System (YRCS)	800 MHz, P25 trunked	Existing and being enhanced
Phoenix Fire Regional Dispatch	VHF conventional	Existing
Prescott regional communications	VHF conventional	Existing
Sedona fire regional	VHF conventional	Existing

Technology Initiatives

The following table outlines Arizona's strategic communications technology initiatives, gaps, owners, priority and status:

Initiative	Gap	Owner	Priority	Status *(Complete, In Progress, Not Started)*
# 4. Complete the Arizona Interagency Radio System (AIRS) by deploying remaining AIRS suites	Need to address coverage gaps.	DPS/WSB	Short-term, High Priority	In Progress
# 5. Implement, enhance and promote functional Regional Systems in support of interoperable communications. *(See Regional system chart above).*	Local networks will require maintenance & enhancements to support multiple users.	PSCC / Regional Partners	Medium-term, High Priority	In Progress
# 6. Upgrade the statewide microwave backbone infrastructure to digital technology.	Connectivity and digital capability for systems statewide.	DPS/WSB	Long-term, High Priority	In Progress
# 7. Implement the State Strategic Technology Reserve (STR).	Augmentation of current reserves in support of continuity of government.	AZDEMA	Short-term, High Priority	In Progress
# 8. Upgrade operable communication systems for State Agencies in support of interoperable communications.	Needs are to be determined.	State Agency Committee	Long-term, High Priority	Not Started

Supportive Objectives	Gap	Owner	Milestone Date	Status *(Complete, In Progress, Not Started)*
6.1. Complete the Microwave Southern Loop Digital Upgrade	Connectivity and digital capability for systems in key area of the State.	DPS/WSB	2009	In Progress
6.2. Complete the Microwave Western Loop Digital Upgrade	Connectivity and digital capability for systems in second-most populated area of the State.	DPS/WSB	2012, subject to recommencement of State funding	Planned; On Hold due to State budget crisis
6.3. Complete the Microwave Northern Loop Digital Upgrade	Connectivity and digital capability for systems in least populated area of the State.	DPS/WSB	2017, subject to recommencement of State funding	Not Started

Training and Exercises

Overview of the diversity, frequency, and inter-agency coordination of training and exercises

There are two types of training and exercise plans in Arizona.

The first type of training occurs at the local jurisdictional and discipline level and covers job basics, roles, and responsibilities. Additionally, each year local governments conduct their own training and exercise programs, which are generally multi-disciplinary and inter-jurisdictional within a county government.

The second training and exercise program is conducted by the State and often deals with matters of State and national security. The Arizona Division of Emergency Management (ADEM) within the Arizona Department of Emergency and Military Affairs (DEMA) has an extensive training and exercise program, with schedules posted on its website. AZDEMA actively recruits participants in its training classes by contacting local government EOCs. The State offers a large number of classes to local emergency responders that are multi-disciplinary, multi-jurisdictional, and include Federal, State, local, and tribal entities.

Training

Arizona's training program crosses all jurisdictions and is multi-disciplinary. Training is provided on a regular basis, thus creating continual training opportunities for State, local, and tribal entities.

There are formal State training programs and train-the-trainer classes in the Homeland Security Exercise and Evaluation Program (HSEEP) process.

The ADEM training program is designed to instruct emergency responders in NIMS and ICS; however, ADEM does not currently maintain a separate training class or curriculum for interoperable communications. The Arizona State Land Department teaches and provides credentials for Communications Unit Leader (COML) and Communications Unit Technician (COMT) classes through the National Wildfire Coordinating Group (NWCG).

The PSIC Office, in conjunction with local jurisdictions, will provide six OEC COML training sessions statewide during 2009. Additionally, one of the few nationwide train-the-trainer instructors is a member of Arizona's PSCC. Arizona is developing a formal COML program to provide additional training and credentialing for public safety professionals.

Exercises

Exercises are conducted with other levels of government and include After Action Reports and Improvement Plans regularly. Communications is a component of many exercises, but our stakeholders feel the communications aspect of exercises needs considerable improvement.

During May 2009, a Regional OP-TTX Communications Based Training Exercise was successfully conducted in Yuma, Arizona as part of a Technical Assistance (TA) award to the State of Arizona, through the PSIC Office. A total of 69 local, state and federal first responders from 21 different agencies participated in the exercise. A gap closure plan is being implemented to close all gaps identified by the exercise.

Training and Exercises Initiatives

The following table outlines Arizona's training and exercises strategic initiatives, gaps, owners, priority and status:

Initiative	Gap	Owner	Priority	Status *(Complete, In Progress, Not Started)*
# 10. Develop and implement a Training Plan to address interoperable communications.	Training curriculum must address all communication interoperability initiatives.	PSCC	Medium-term, Medium Priority	In Progress
# 11. Develop and implement a strategy for exercises focused on or incorporating interoperable communications..	Exercise strategy must address interoperable communications initiatives.	PSCC	Medium-term, Medium Priority	In Progress

Supportive Objectives	Gap	Owner	Milestone Date	Status *(Complete, In Progress, Not Started)*
10.1. Develop and implement AIRS Training.	Expand usage of AIRS.	PSCC	2010	In Progress
10.2. Implement COML training program.	Expand availability of COML training and formalize training program.	PSIC or other	2010	In Progress
10.3. Implement COMT training program.	Expand availability of COMT training and formalize training program.	PSIC or other	2011, subject to National Program roll-out	Not started

Usage

Overview of the usage and promotion of interoperability solutions

The concept of interoperability is promoted through an evolving statewide outreach program, open public meetings, as well as a user-friendly website and regular communications to interested parties. Local governments are interoperable with the equipment they rely on for day-to-day situations and most emergencies. In areas that do have shared radio systems, daily interoperability exists.

Testing is not done on a regular basis; rather, equipment is usually used during roll call or through drills and exercises. Testing is done with Federal, State, and local agencies and failures are found through usage or incident related failures.

Arizona does not use a common, statewide radio system with the exception of AIRS. AIRS is more used for localized emergency incidents rather than regional interoperability; however its use is expected to increase as availability increases. Mutual aid frequencies, on which AIRS operates, are usually not used for pre-planned events.

The State recognized a gap in outreach efforts and recruited an outreach manager to promote interoperability awareness, initiatives, and best practices throughout Arizona. The State encourages and coordinates collaborative efforts and identifies and helps address State, regional, and local barriers to advancing interoperability solutions and usage. PSIC outreach activities include: stakeholder engagement; information sharing; identification of needs and resources; and participation in training and exercises.

Arizona has developed partnerships with members of the PSCC, SIEC and workgroups as well as agency public information officers, communication managers, regional communication centers and emergency managers. These partnerships have allowed the State to leverage the knowledge and expertise of many people, to be able to share interoperable communication information with their constituencies, and at the same time bring back information to the PSCC, SIEC and the PSIC Office for consideration.

Usage and Outreach Initiatives

The following table outlines Arizona's usage and outreach strategic initiatives, gaps, owners, priority and status:

Initiative	Gap	Owner	Priority	Status *(Complete, In Progress, Not Started)*
# 12. Create and implement an education and outreach plan in support of interoperable communications..	To ensure key stakeholders, policy members, and practitioners understand the issues, and current/desired future state of interoperability in Arizona.	PSCC	Medium-term, Medium Priority	In Progress

Supportive Objectives	Gap	Owner	Milestone Date	Status *(Complete, In Progress, Not Started)*
12.1 Establish a full-time interoperability outreach manager.	Identified Need for additional outreach.	PSCC	October 2008	Complete

Appendix A: Strategic Initiatives and Supporting Objectives

Revised Strategic Initiatives and Supporting Objectives approved by the Arizona Public Safety Communications Advisory Commission (PSCC) on May 19, 2009 after extensive statewide statkeholder input:

Continuum	#	Approved: 5/19/2009	Tracking				
		Strategic Initiative ■ Supporting Objective	Priority	Term	Target Completion Dtae	Lead	Status
Governance	1	**Expand and implement Interoperable Communications Governance Model & Plan.**	High	Short	2010	PSCC	In progress
	1.1	■ Conduct an annual SCIP review and update the plan.	High	Ongoing	Annual	PSCC	In progress
	1.2	■ Develop a Comprehensive Emergency Communications Plan addressing regional emergencies, catastrophic loss and mass evacuation/ingress.	High	Short	2010	TBD	TBD
	1.3	■ Develop TICPs and utilization of CASM.	Med.	Med.	2011	Regional Partners	In progress
	1.4	■ Strengthen SIEC.	Med.	Short	2009	PSCC/SIEC	In progress
	2	**Develop Long-term Plan for Statewide Interoperability for voice and data.**	Med.	Med.	2011	PSCC	In progress
	2.1	■ Develop Long-term Plan for Statewide Interoperability for voice.	Med.	Med.	2011	PSCC	In progress
	2.2	■ Develop Long-term Plan for Statewide Interoperability for data.	Med.	Med.	2011	PSCC	Not started
	3	**Develop & implement Long-term Funding and Sustainability Strategy for interoperable communications.**	Med.	Med.	2011	PSCC	Not started
Technology	4	**Complete the Arizona Interagency Radio System (AIRS) by deploying remaining AIRS suites.**	High	Short	2009	DPS/WSB	In progress
	5	**Implement, enhance and promote functional Regional Systems in support of interoperable communications.**	High	Ongoing	On-going	Regional Partners	In progress
	6	**Upgrade the statewide Microwave (M/W) backbone infrastructure to digital technology.**	High	Long	2017	DPS/WSB	In progress
	6.1	■ Complete the M/W Southern Loop Upgrade.	High	Short	2009	DPS/WSB	In progress
	6.2	■ Complete the M/W Western Loop Upgrade.	High	Med.	2012	DPS/WSB	Not started
	6.3	■ Complete the M/W Northern Loop Upgrade.	High	Long	2017	DPS/WSB	Not started
	7	**Implement the State Strategic Technology Reserve (STR).**	High	Short	2010	ADEM	In progress
	8	**Upgrade operable communication systems for State Agencies in support of interoperable communications.**	High	Long	2015	State Agency Committee	In progress
	8.1	■ Implement immediate solutions to enhance operable communication systems for State agencies in support of interoperable communications.	High	Short	2010	State Agency Committee	In progress
	8.2	■ Implement upgrades to operable communication systems for State agencies in support of interoperable communications.	Med.	Long	2015	State Agency Committee	Not started
SOPs	9	**Establish Policies, Standards and Procedures (PSP) Framework, and implement PSPs, including SOPs, for interoperable communications.**	High	Med.	2011	PSCC/SIEC	In progress
Training & Exercise	10	**Develop and implement a Training Plan to address interoperable communications.**	Med.	Med.	2011	PSCC	New
	10.1	■ Develop and implement AIRS Training.	High	Short	2010	PSCC	Not started
	10.2	■ Implement COML training program.	Med.	Med.	2010	TBD	Not started
	10.3	■ Implement COMT training program.	Med.	Med.	2011	TBD	Not started
	11	**Develop and implement a strategy for exercises focused on or incorporating interoperable communications.**	Med.	Med.	2011	PSCC	New
Usage & Outreach	12	**Create and implement an education and outreach plan in support of interoperable communications.**	Med.	Med.	2010	PSCC	In progress

Appendix H STATE SHARED SYSTEMS

Shared Systems

"Shared system" refers to a single radio system used to provide service to several public safety or public service agencies. The results of the 2007 Radio Systems Report show that Arizona operates on multiple local, regional, and state shared land mobile radio (LMR) systems. The majority of these systems serving the more rural areas of Arizona are conventional VHF or UHF while the larger metropolitan areas have migrated, or are in the process of migrating, to 800 megahertz (MHz) trunked systems. The State agency systems operate mostly in the UHF and VHF radio bands, with some in 700/800 MHz.

H.1 Regional System: Pima County Wireless Integrated Network (PCWIN)

SCIP Initiative Alignment: 5.8.3.2 Implement, Enhance and Promote Functional Regional Systems in Support of Interoperable Communications

Governance: PCWIN Executive Management Committee

Regional Scope: Pima County

Brief Description of Technology: *Voice Radio System:* The PCWIN system will be a Motorola® Astro25 (P25 Phase II) Digital 800 MHz system that will incorporate simulcast and trunking technology. The regional "shared system" approach will provide the participating agencies with the highest level of interoperability possible. Conventional channel gateways will provide opportunity to interconnect the PCWIN radio system with other state and federal systems for interoperability with those systems. The trunked system will be augmented by simplex channels and digital vehicular repeaters to meet the communications requirements for fireground and police tactical communications. Mobile and portable radios will come from the Motorola® APX family of radios. Dispatch consoles are planned for twelve dispatch locations. Dispatch equipment will consist of a Motorola® MCC7500 IP radio dispatch console system, digital backup radio control station, and accessories. Participants will have countywide radio coverage and on demand interagency interoperability.

Network Connectivity System: The backhaul communications network will include a combination of microwave links and county or city owned fiber-optic lines in a ring configuration to create a highly reliable network backbone for the voice radio system.

Major Initiatives:

- Voice and data radio systems (20 fire agencies and 12 police and emergency services agencies)
- Emergency communications and operations center

Major Milestones:

- September 29, 2009 - executed contract with Motorola® to provide the voice radio system.
- Fall, 2009 - completed selection of the microwave vendor and are preparing for contract negotiations.

- Fall, 2009 – formation of specifications for an Invitation for Bid for physical facility improvements is nearing completion.

Funding Model: $92 million dollars in bonds for the development, procurement, implementation and management of a regional public safety radio system.

H.2 Regional System: Regional Wireless Cooperative (RWC)

SCIP Initiative Alignment: 5.8.3.2 Implement, Enhance and Promote Functional Regional Systems in Support of Interoperable Communications

Governance: The City of Phoenix is the Administrative Managing Member of the RWC. In this role, the City of Phoenix handles many of the administrative functions of operating the system; however, the RWC functions as a cooperative with each member agency participating in the governance process. Membership is open to all federal, state, local and tribal governmental entities. Governance is handled by a Board of Directors consisting of one executive representative from each Member. The board directs the operation, maintenance, planning, design, implementation and financing of the RWC.

Regional Scope: The RWC system is designed to provide coverage over a majority of Maricopa County (~2,000+ square miles). The coverage is designed to provide on-street and in-building coverage to public safety standards to accommodate law enforcement, fire, and EMS responders, as well as other public entities (transit, water, streets, etc.). Additionally, projects are in progress to further expand coverage within the Central Region to provide enhanced interoperability.

Brief Description of Technology: The RWC is a large, Public Safety radio network based on the Project 25, Phase I Standard. The network is an ASTRO 25™, Integrated Voice and Data, trunked radio system. It operates in the 700/800 MHz frequency bands and uses standard Simulcast, IP Simulcast, and individual site trunking. The network consists of six (6) major simulcast subsystems and six (6) Intelligent Site Repeaters (ISR's).

Major Initiatives and Milestones: The initial system design was completed in 2000. Since that time, considerable build out and expansion has occurred within the coverage area. Initiatives are underway to analyze current needs and requirements and develop a detailed design to expand the system. It is anticipated that this will be completed by the end of 2009 with funding and build out commencing in 2010. This will enhance system coverage and capacity to meet the needs of today. Additionally, build out of regional high-sites is in progress to enhance regional interoperability and provide a redundant back-up for regional participants. Completion of this is expected in 2010.

Funding Model: Operations and maintenance of the system is funded through a monthly charge per subscriber on the system. The total operating cost is determined and shared among all subscribers to determine the monthly cost. As needed, special assessments may also be used to fund needs above and beyond standard operating requirements. These would include system upgrades, supplemental staffing, emergency hardware replacement, etc. Additionally, as entities join the RWC if build out is required to cover their respective jurisdictional area or capacity expansion is needed, that is determined during the analysis phase and those costs may be assessed to the joining agency (or agencies if multiple joining at one time) to facilitate their transition into the RWC. Once a member, all costs are shared among all participating agencies and cost allocation determined by the cooperative.

H.3 Regional System: Trunked OPen AriZona (TOPAZ) Regional Wireless Cooperative (TRWC)

SCIP Initiative Alignment: 5.8.3.2 Implement, Enhance and Promote Functional Regional Systems in Support of Interoperable Communications

Governance: The TOPAZ Regional Wireless Cooperative (TRWC) is an unincorporated association of parties. It has an Administrative Manager (Mesa) and a Board of Directors. The Administrative Manager appoints an Executive Director with Board approval. All matters are decided by a numerical vote of the Board of Directors, with weighted voting allowed as requested by a member.

Regional Scope: The Cities of Mesa and Apache Junction, the Towns of Gilbert and Queen Creek, and the Apache Junction Fire District

Brief Description of Technology: The TRWC consists of a Project 25 digital trunk radio system servicing multiple jurisdictions to maximize public safety and service-oriented communications and promote interoperability. It creates radio coverage Areas and associated Area Managers that administer the area operations, infrastructure, and assets through a structure that fosters collaborative planning amongst members.

Area Managers operate their zone as a separate sub-system on the overall network. The Members within a particular zone have the ability to enhance, expand and/or increase the capacity of their zone as needed. The Area Managers are responsible for facilitating cost-recovery agreements between them and any other Member within their zone.

Major Initiatives:

- Third and Fourth Quarter 2009 – Drafting, review and possible adoption of an IGA to establish interoperability with the RWC and consideration of formal arrangements with additional entities interested in being Interoperability Participants with the TRWC.
- First Quarter 2010 – Implementation of new equipment that will establish the TRWC as an independent system, along with establishment of talk groups for interoperability

Major Milestones:

- November 2008 – First TRWC Board of Directors meeting, election of Chairman, Vice Chairman, and appointment of Executive Director
- March 2009 – Adoption of Fiscal Year 09/10 Budget by the Board of Directors
- September 2009 – Adoption of Policies and Procedures for operation of the Network

Funding Model: Participation in the TRWC requires a financial commitment from each participating entity. Operational, maintenance, and capital costs are designed to be completely self funding with each subscriber paying into the TRWC. Other funding is/can be obtained through special assessment fees and grants. The Administrative Manager administers the financial portion of the model, and costs are spread equitably over the TRWC Areas and their respective system subscribers. Optional services (from Mesa) may include dispatch services and maintenance services depending upon need.

H.4 Regional System: Yuma Regional Communications System (YRCS)

SCIP Initiative Alignment: 5.8.3.2 Implement, Enhance and Promote Functional Regional Systems in Support of Interoperable Communications

Governance: Yuma Regional Communications System (YRCS) Council

Regional Scope: The YRCS covers Yuma County but has extended applications via DPS and ADOT interoperability as well as interoperability with California public safety agencies.

Brief Description of Technology: The YRCS is a Motorola® P-25 ver. 7.2 digital 700/800MHz trunked shared system that serves agencies across the Yuma Region. As of 2009, there are 493 mobile and 934 portable radios on the system.

The system utilizes 60 channels across hundreds of talkgroups, some of which are encrypted, to enable robust operable and interoperable communications for approximately 37 public safety and service agencies and disciplines. Specifically, the YRCS services all public safety agencies in Yuma County at the state, local, and tribal level and includes support for U.S. Army and Marine operations. The YRCS additionally provides interoperability services to all locally represented federal agencies.

Major Initiatives and Milestones: TBD

Funding Model: The YRCS was funded with local general funds and various grants. An Intergovernmental Agreement (IGA) and by-laws are in place to provide for fees that pay for radio technical support, maintenance, and the Motorola® service contract.

Appendix I REFERENCES

SECTION 1

- Arizona Statute A.R.S. §41-1830.41 and §41-1830.42; http://azgita.gov/psic/about/law.htm
- Arizona Statute A.R.S. §41-3541 and §41-3542; http://azgita.gov/psic/about/law.htm

SECTION 2

- Arizona Indian Affairs; http://www.indianaffairs.state.az.us/tribes_of_arizona.asp

SECTION 3

- Public Safety Communications Advisory Commission Meeting Minutes; http://www.azgita.gov/psic/meetings/minutes.htm
- Arizona Statute A.R.S. §41-1830.41 and §41-1830.42; http://azgita.gov/psic/about/law.htm
- Arizona GITA; AIRS; http://www.azgita.gov/psic/library/airs/AIRS_MOU.pdf
- Arizona GITA; SCIP, and All Related Documents; http://www.azgita.gov/psic/

SECTION 4

- Future initiatives and planning efforts; http://www.azgita.gov/psic/about/commission.htm
- DHS Interoperability Continuum; http://www.safecomprogram.gov/SAFECOM/Tools/Continuum/
- Public Safety Interoperable Communications (PSIC) Office; http://www.azgita.gov/psic/, http://www.azgita.gov/psic/plans/ARIZONA_PSIC_Office_Plan.pdf
- Arizona State Legislature under A.R.S. §41-3541 and §41-3542; http://azgita.gov/psic/about/law.htm
- Arizona State Legislature under A.R.S. §41-1830.41 and §41-1830.42; http://azgita.gov/psic/about/law.htm
- Public Safety Communications Advisory Commission (PSCC); http://www.azgita.gov/psic/about/commission.htm
- PSCC Public Meeting Notes; http://www.azgita.gov/psic/meetings/minutes.htm
- PSCC and SIEC Working Group Information; http://www.azgita.gov/psic/about/commission.htm
- Arizona Open Meeting Laws (A.R.S. §38-431) Open Meeting Laws; http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/38/00431.htm&Title=38&DocType=ARS
- AIRS State Plan, Channel Plans, and Memoranda of Understanding (MOU); http://www.azgita.gov/psic/library/airs/AIRS_MOU.pdf

- Arizona Mutual Aid Compact; http://www.dem.azdema.gov/logistics/docs/mutualaid/Final_AZ_Mutual_Aid_Compact08.pdf
- Arizona Mutual Aid Signatories; http://www.dem.azdema.gov/logistics/docs/mutualaid/signatories.pdf
- NIMS compliant in accordance with Arizona's Governor's Executive Order EO2005-08; http://azmemory.lib.az.us/cdm4/item_viewer.php?CISOROOT=/execorders&CISOPTR=471&CISOBOX=1&REC=8
- Homeland Security Presidential Directive 5 (HSPD-5); http://www.dhs.gov/xabout/laws/gc_1199894121015.shtm#1
- National Response Framework; http://www.fema.gov/emergency/nrf/
- AIRS SOP; http://www.azgita.gov/psic/library/airs/default.htm
- Arizona Field Operations Guide; http://azchiefs.publicaware.com/Assets/dept_1/PM/pdf/Field_Ops_Guide.pdf
- VHF, One Page Document Minimum Channel Capacity, Channel Display, Frequency Range, Narrowband Capability and P-25 Capability; http://www.azdps.gov/pscc/documents/vhfminimumequipstandards.pdf
- UHF, One Page Document Minimum Channel Capacity, Channel Display, Frequency Range, Narrowband Capability and P-25 Capability; http://www.azdps.gov/pscc/documents/uhfminimumequipstandards.pdf
- AIRS SOP; http://www.azgita.gov/psic/library/airs/default.htm
- Arizona Statewide Training Program; http://www.dem.azdema.gov/preparedness/trainingcalendar/webcal.html
- ADEM Outreach Program for Training; http://www.dem.azdema.gov/preparedness/training/training.html
- ADEM Outreach Program, Exercises; http://www.dem.azdema.gov/preparedness/exercise/exercise.html
- Type III COML Information; http://www.azgita.gov/psic/library/coml/default.htm

APPENDIX B

- Arizona Commission of Tribes; http://www.indianaffairs.state.az.us/

APPENDIX D

- Arizona Department of Public Safety, Wireless Systems Bureau; http://www.azdps.gov/About/Organization/Criminal_Justice_Support/Wireless_Systems/

Appendix J GLOSSARY

Acronym	Definition
AAR	After Action Report
ADEM	Arizona Division of Emergency Management
AIRS	Arizona Interagency Radio System
AOHS	Arizona Office of Homeland Security
AZ	Arizona
AZDOHS	Arizona Department of Homeland Security
AZPOST	Arizona Peace Officers Training and Standards
BIDP	Border Interoperability Demonstration Project
BLM	Bureau of Land Management
CAP	Corrective Action Plan
CASM	Communication Assets Survey and Mapping Tool
COG	Continuity of Governments
COML	Communications Unit Leader
COMT	Communications Unit Technician
ConOps	Concept of Operations
DEMA	Arizona Department of Emergency and Military Affairs
DHS	U.S. Department of Homeland Security
DoD	Department of Defense
DPS	Arizona Department of Public Safety
DRN	DEMA Radio Network
EMI	Emergency Management Institute
EMS	Emergency Medical Service
EMSCOM	Emergency Medical Service Communications
EMT	Emergency Medical Technicians
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operation Plan
FCC	Federal Communications Commission
FPIC	Federal Partnership for Interoperable Communications
GITA	Government Information Technology Agency
HSEEP	Homeland Security Exercise and Evaluation Program
HSPD-5	Homeland Security Presidential Directive 5
IARS	Interoperable Arizona Radio System (Predecessor to AIRS)
ICS	Incident Command System
ICTAP	Interoperable Communications Technical Assistance Program
IECGP	Interoperable Emergency Communications Grant Program
IGA	Intergovernmental Agreement

Acronym	Definition
IP	Improvement Plan
IWG	Interoperability Workgroup
JLBC	Arizona Joint Legislative Budget Committee
LEPC	Local Emergency Planning Committee
LETPP	Law Enforcement Terrorism Prevention Program
LMR	Land Mobile Radio
MCC	Mobile Communications Center
MCDEM	Maricopa County Department of Emergency Management
MCU	Mobile Communications Unit
MCV	Mobile Command Vehicle
MHz	Megahertz
MMRS	Metropolitan Medical Response System
MOA	Memoranda of Agreement
MOU	Memoranda of Understanding
NCC	National Coordination Committee
NEPA	National Environmental Policy Act
NGA	National Governor's Association
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NIMSCAST	NIMS Compliance Assistance Support Tool
NNALEA	National Native American Law Enforcement Association
NPSTC	National Public Safety Telecommunications Council
NRF	National Response Framework
NTIA	National Telecommunications Information Association
NWCG	National Wildfire Coordinating Group
OEC	Office of Emergency Communications
OPSG	Operation Stone Garden
PCWIN	Pima County Wireless Integrated Network
PL	Private Line
POC	Pont of Contact
PSCC	Public Safety Communications Advisory Commission
PSIC	Public Safety Interoperable Communications
PSP	Policies, Standards, Procedures
PSWAC	Public Safety Wireless Advisory Committee
R4C	Four Corners Homeland Security Coalition
RAC	Regional Advisory Councils
RECCWG	Regional Emergency Communications Coordination Working Group
RFP	Request for Proposal
RICO	Racketeer Influenced and Corrupt Organizations Funding
RICP	Regional Interoperable Communications Plan
RWC	Regional Wireless Cooperative

Acronym	Definition
SAA	State Administrative Agency
SAIC	Science Applications International Corporation
SCIP	Statewide Communications Interoperability Plan
SHSGP	State Homeland Security Grant Program
SIEC	Statewide Interoperability Executive Committee
SME	Subject Matter Expert
SOP	Standard Operating Procedures
STR	Strategic Technology Reserve
SWBCWG	Southwest Border Communications Working Group
SWIC	Statewide Interoperability Coordinator
TCA	Target Capability Assessment
T&EP	Training and Exercise Plan
T&EPW	Training and Exercise Plan Workshops
TICP	Tactical Interoperable Communications Plan
TOPAZ	Telecommunications Open Partnerships for Arizona (see TRWC below)
TOPOFF	Top Officials exercise intended to test the nation's readiness to deal with large-scale terrorist attacks
TRWC	TOPAZ Regional Wireless Cooperative
TVE	TICP Validation Exercise
UASI	Urban Area Security Initiative
UHF	Ultra High Frequency
VHF	Very High Frequency
WSB	Wireless Systems Bureau of DPS
YRCS	Yuma Regional Communications System

Appendix K DHS SCIP CRITERIA CROSS REFERENCE

CRITERIA Number		
1.0	**Background and Preliminary Steps**	
1.1	Provide an overview and background information on the state and its regions. Include geographic and demographic information.	2.0, A.1, A.2
1.2	List all agencies and organizations that participated in developing the plan	A.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 discipline and should not have to balance the coordinator duties with other responsibilities.	1.0
1.4	Describe the communications and interoperability environment of the current emergency response effort.	4.0
1.5	Include a problem definition and possible solutions that addresses the challenges identified in achieving interoperability within the SAFECOM Interoperability Continuum.	5.1
1.6	Identify any Tactical Interoperable Communications Plans in the state.	4.2.3
1.7	Set the scope and timeframe of the plan.	5.5
2.0	**Strategy**	
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.	5.2, 5.3, 5.4, 5.8
2.2	Provide a strategic plan for coordination with neighboring states. If applicable, include a plan for coordination with neighboring countries.	5.8.1.2
2.3	Provide a strategic plan for addressing data interoperability in addition to voice interoperability.	5.8.1.2
2.4	Describe a strategy for addressing catastrophic loss of communications assets by developing redundancies in the communications plan.	5.8.1.2
2.5	Describe how the plan is, or will become compliant with the National Incident Management System (NIMS) and the National Response Plan.	5.6
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.	5.8.1.2
2.7	Describe the process for periodic review and revision of the state plan.	3.4

CRITERIA Number		
3.0	**Methodology**	
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.	3.0, 3.1, 3.3
3.2	Define the processes for continuing to have local input and for building local support of the plan.	3.3, 3.4, 5.3
3.3	Define how the TIC Plans were incorporated into the statewide plan.	4.2.3
3.4	Describe the strategy for implementing all components of the statewide plan.	5.8
4.0	**Governance**	
4.1	Identify the executive or legislative authority for the governing body of the interoperability effort.	4.1.1, 4.1.2, Appendix C
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 the relevant emergency response disciplines and regions in the state.	4.1
4.3	Provide the charter for the governing body, and use the charter to state the principles, roles, responsibilities, and processes.	4.1.2
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.)	4.1.2, 4.1.3, Appendix D
4.5	Provide a meeting schedule for the governing body.	4.1.2, 4.1.3
4.6	Describe multi-jurisdictional, multi-disciplinary agreements needed for decision-making and for sharing resources.	4.1.4
5.0	**Technology**	
5.1	Include a statewide capabilities assessment (or a plan for one) which includes, official 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.	4.0, 4.3, 4.3.6
5.2	Describe plans for continuing support of legacy systems, and developing interfaces among disparate systems, while migrating to newer technologies.	5.8.3.2, 5.8.3.3, 5.8.3.5
5.2.1	Describe the migration plan for moving existing technologies to newly procured technologies.	5.8.1.2

CRITERIA Number		
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.	5.8.1.2, 5.8.3.5
6.0	**Standard Operating Procedures**	
6.1	Include an assessment of local, regional, and state operating procedures that support interoperability.	4.2, 4.2.3, 4.2.4
6.2	Define the process by which the state, regions, and localities will develop, manage, maintain, upgrade, and communicate SOPs as appropriate.	4.2, 4.2.1, 5.8.2.1
6.3	Identify the agencies included in the development of SOPs, and the agencies expected to comply with the SOPs.	4.2, 4.2.1, 4.2.3
6.4	Demonstrate how the SOPs are NIMS compliant in terms of the ICS and preparedness.	4.2.2
7.0	**Training and Exercises**	
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.	4.4, 4.4.1, 5.8.4.1, 5.8.4.2
7.2	Describe the process for offering and requiring training and exercises, as well as any certification that will be needed.	4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.4.5
7.3	Explain how the process ensures that the training is cross-disciplinary.	4.4, 4.4.1
8.0	**Usage**	
8.1	Describe the plan for ensuring regular usage of the relevant equipment and the SOPs needed to improve interoperability.	4.5.1, 4.5.2, 4.5.3
9.0	**Funding**	
9.1	Identify committed sources of funding, or the process for identifying and securing short- and long-term funding.	5.1.1, 5.1.2, 5.8.1.3
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.	5.8.1.3
10.0	**Implementation**	
10.1	Describe the prioritized action plan with short- and long-term goals for achieving the objectives.	5.8
10.2	Describe the performance measures that will allow policy makers to track the progress and success of initiatives.	5.8
10.3	Describe the plan for educating policy makers and practitioners on interoperability goals and initiatives.	5.8.5.1
10.4	Describe the roles and opportunities for involvement for all local, state, and tribal agencies in the implementation of the statewide plan.	5.8

CRITERIA Number		
10.5	Establish a plan for identifying, developing, and overseeing operational requirements, SOPs, training, technical solutions, and short- and long-term funding sources.	5.0
10.6	Identify a POC responsible for implementing the plan.	1.0, 4.1.1
10.7	Describe critical success factors for implementation of the plan.	5.8
11.0	**PSIC Requirements**	
11.1	Describe 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 - the public safety spectrum in the 700 MHz frequency band 2) enable operability 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 systems that utilize other public safety spectrum bands.	3.2, 5.8.1.2, 5.7.8.1, 5.7.8.2, 5.7.8.3, 5.7.8.4, 5.7.8.5
11.2	Describe how a Strategic Technology Reserve (STR) will be established and implemented to pre-position or secure interoperable communications in advance for immediate deployment in an emergency or major disaster.	4.3.5, 5.8.3.4
11.3	Describe how local and tribal government entities' interoperable communications needs have been included in the planning process and how their needs are being addressed	1.0, 3.3, Appendix B
11.4	Describe how authorized non-governmental organizations' interoperable communications needs have been included in the planning process and how their needs are being addressed (if applicable).	1.0, 3.3

Appendix L NATIONAL EMERGENCY COMMUNICATIONS PLAN ALIGNMENT

L.1 NECP Provisions Applicable To State Governments

The National Emergency Communications Plan (NECP)[47] identifies the following objectives, initiatives and milestones that are relevant to States to improve emergency communications for Federal, State, local, and tribal emergency responders across the Nation. The majority of the NECP objectives, initiatives and milestones, which are not listed below, apply to the Federal government, not to the States.

Objective 1. Formal decision-making structures and clearly defined leadership roles coordinate emergency communications capabilities.

Initiative 1.1: Facilitate the development of effective governance groups and designated emergency communications leadership roles.

Milestone 1.1.2: Within 12 months, all States and Territories should establish full-time statewide interoperability coordinators or equivalent positions. (p.12)

Milestone 1.1.5: Within 12 months, SIECs (AZ SIEC = PSCC, SIEC and sub-committees) in all 56 States and Territories should incorporate the recommended membership as outlined in the SCIP Guidebook and should be established via legislation or executive order by an individual State's governor. (p.13)

Initiative 1.3: Integrate strategic and tactical emergency communications planning efforts across all levels of government. Tactical and strategic coordination will eliminate unnecessary duplication of effort and maximize interagency synchronization, bringing together tactical response and strategic planning.

Milestone 1.3.2: Within 12 months, tactical planning among Federal, State, local, and tribal governments occurs at the regional interstate level. (p.14)

Objective 3. Emergency responders employ common planning and operational protocols to effectively use their resources and personnel.

Initiative 3.1: Standardize and implement common operational protocols and procedures. A national adoption of plain-language radio practices and uniform common channel naming, along with the programming and use of existing national interoperability channels, will allow agencies across all disciplines to effectively share information on demand and in real time. Using common operational protocols and procedures avoids the confusion that the use of disparate coded language systems and various tactical interoperability frequencies can create. Use of the existing nationwide

[47] http://www.dhs.gov/xlibrary/assets/national_emergency_communications_plan.pdf

interoperability channels with common naming will immediately address interoperability requirements for agencies operating in the same frequency band.

Milestone 3.1.6: Within 18 months, DHS develops training and technical assistance programs for the National Interoperability Field Operations Guide (NIFOG); (Footnote 26) programs an appropriate set of frequency / band-specific nationwide interoperability channels into all existing emergency responder radios; (Footnote 27) and preprograms an appropriate set of frequency / band-specific nationwide interoperability channels into emergency response radios that are manufactured or purchased through Federal funding as a standard requirement. (p. 22)

Footnote 27 states: Milestones in this area refer to the programming of an "appropriate set" of interoperability channels. This language is used in recognition that most radios used by emergency responders do not have the capacity to hold all of the national interoperability channels in addition to their required operational channels. Some radio channels are discipline-specific and are inappropriate to program in radios of other disciplines.

Milestone 3.1.7: Within 24 months, all SCIPs reflect plans to eliminate coded substitutions throughout the ICS, and agencies incorporate the use of existing nationwide interoperability channels into SOPs, training, and exercises at the Federal, State, regional, local, and tribal levels. (p. 22)

Initiative 3.2: Implementation of the NIMS and the NRF across all levels of government. Emergency response agencies across all levels of government should adopt and implement national-level policies and guidance to ensure a common approach to incident management and communications support. Implementation of these policies will establish clearly defined communications roles and responsibilities and enable integration of all communications elements as the ICS structure expands from the incident level to the national level.

Milestone 3.2.1: Within 12 months, all Federal, State, local, and tribal emergency response providers within UASI jurisdictions have implemented the Communications and Information Management section of the NIMS. (p.22)

Objective 7. The Nation has integrated preparedness, mitigation, response, and recovery capabilities to communicate during significant events.

Initiative 7.2: Implement disaster communications planning and preparedness activities. Identifying critical communications vulnerabilities and developing mitigation strategies is important for all agencies with operational responsibilities during major events. Agencies should evaluate the readiness posture of communications centers (e.g., Public Safety Answering Points [PSAP]) and emergency response and commercial networks that may be vulnerable to weather damage, flooding, and man-made disasters. The vulnerabilities identified should be a primary focus of disaster planning and preparedness activities. System planning activities should account for the availability of alternative and backup communications solutions and redundant pathways (i.e., provided by different vendors) to support communications if primary capabilities become unavailable.

Milestone 7.2.4: Within 24 months, complete disaster communications training and exercises for all 56 States and Territories. (p. 36)

Milestone 7.2.5: Within 24 months, all Federal, State, local, and tribal agencies in UASIs have defined alternate/backup capabilities in emergency communications plans. (p. 37)

L.2 NECP Cross Reference to Relevant State of Arizona SCIP Initiative Provisions

NECP Reference	NECP Requirement & Milestone	SCIP Initiative Provisions
Page 12 Objective 1 Initiative 1.1 Milestone 2	By 7/31/09, establish a full-time statewide interoperability coordinator or equivalent position.	▪ Relevant Related SCIP Provision: 5.8.1.1 Expand & Implement Interoperable Communications Governance Model & Plan
Page 13 Objective 1 Initiative 1.1 Milestone 5	By 7/31/09, the SIEC (or equivalent) should incorporate the recommended membership as outlined in the SCIP Guidebook and should be established via legislation or executive order by an individual State's governor.	▪ Public Safety Communications Advisory Commission (PSCC) has legislative authority. ▪ Relevant Related SCIP Provision: 5.8.1.1 Expand & Implement Interoperable Communications Governance Model & Plan
Page 14 Objective 1 Initiative 1.3 Milestone 2	By 7/31/09, tactical planning among Federal, State, local, and tribal governments occurs at the regional interstate level.	▪ Regional communities are responsible for tactical planning for their region. PSIC will try to increase regional involvement in PSCC/SIEC over the next year through our Governance, SOP & Outreach Initiatives. ▪ Relevant Related SCIP Provisions: 5.8.1.1 Expand & Implement Interoperable Communications Governance Model & Plan – Objective 2) Develop TICPs and expand the utilization of CASM 5.8.2.1 Establish a Policies, Standards, Procedures (PSP) Framework and implement PSPs, including SOPs, for statewide interoperable communication solutions. 5.8.4.1 Develop & Implement a Training Plan to Address Interoperable Communications 5.8.4.2 Develop & Implement a Strategy for Exercises Focused on or Incorporating Interoperable Communications 5.8.5.1 Create and implement an Education and Outreach Plan in support of Interoperable Communications

Pages 21-22 Objective 3 Initiative 3.1 Milestone 6	By 1/31/10, programs an appropriate set of frequency-band-specific nationwide interoperability channels into all existing emergency responder radios and preprograms an appropriate set of frequency-band-specific nationwide interoperability channels into emergency response radios that are manufactured or purchased through Federal funding as a standard requirement.	▪ Establishing national interoperability channels is a federal initiative (NECP Objective 3, Initiative 3.1, Milestone 5). ▪ Relevant Related SCIP Provision: 5.8.2.1 Establish a Policies, Standards, Procedures (PSP) Framework and implement PSPs, including SOPs, for statewide interoperable communication solutions. 5.8.3.1 Complete AIRS by Deploying Remaining AIRS Suites
Pages 21-22 Objective 3 Initiative 3.1 Milestone 7	By 7/31/10, SCIP reflect plans to eliminate coded substitutions throughout the ICS, and agencies incorporate the use of existing nationwide interoperability channels into SOPs, training, and exercises at the Federal, State, regional, local, and tribal levels.	▪ Establishing national interoperability channels is a federal initiative (NECP Objective 3, Initiative 3.1, Milestone 5). ▪ Relevant Related SCIP Provisions: 5.8.1.1 Expand & Implement Interoperable Communications Governance Model & Plan - Conduct an Annual SCIP Review 5.8.2.1 Establish a Policies, Standards, Procedures (PSP) Framework and implement PSPs, including SOPs, for statewide interoperable communication solutions. 5.8.4.1 Develop & Implement a Training Plan to Address Interoperable Communications 5.8.4.2 Develop & Implement a Strategy for Exercises Focused on or Incorporating Interoperable Communications
Page 22 Objective 3 Initiative 3.2 Milestone 1	By 7/31/09, all Federal, State, local, and tribal emergency response providers within UASI jurisdictions have implemented the Communications and Information Management section of the NIMS.	▪ This initiative applies to UASI jurisdictions only, not the entire State. 5.8.2.1 Establish a Policies, Standards, Procedures (PSP) Framework and implement PSPs, including SOPs, for statewide interoperable communication solutions. 5.8.4.1 Develop & Implement a Training Plan to Address Interoperable Communications Objective 4) Implement COML/COMT training program 5.8.4.2 Develop & Implement a Strategy for Exercises Focused on or Incorporating Interoperable Communications

Page 36 Objective 7 Initiative 7.2 Milestone 4	By 7/31/10, complete disaster communications training and exercises.	▪ Disaster communications training and exercise is an ongoing activity of ADEM and local emergency managers. ▪ Relevant Related SCIP Provision: 5.8.4.1 Develop & Implement a Training Plan to Address Interoperable Communications 5.8.4.2 Develop & Implement a Strategy for Exercises Focused on or Incorporating Interoperable Communications
Page 37 Objective 7 Initiative 7.2 Milestone 5	By 7/31/10, all Federal, State, local, and tribal agencies in UASIs will have defined alternate/backup capabilities in emergency communications plans.	▪ This initiative applies to UASI jurisdictions only, not the entire State. ▪ Relevant Related SCIP Provisions: 5.8.1.1 Expand & Implement Interoperable Communications Governance Model & Plan – Objective 2) Develop TICPs and expand the utilization of CASM 5.8.3.4 Implement the State Strategic Technology Reserve (STR)