



Arizona

Statewide Communication Interoperability Plan (SCIP) Implementation Report

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**Homeland
Security**

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State Overview

Overview of the State 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.

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.

Vision and Mission

Overview of the interoperable communications vision and mission of the State

The Arizona Statewide Communication Interoperability Plan (SCIP) has a timeframe of **eight years (2007 – 2015)**.

Vision: Enable real-time, interoperable communications between local, county, state, tribal, and federal public safety entities in the state of Arizona to effectively protect lives and property.

Mission: To create a seamless inter-jurisdictional and inter-disciplinary interoperable communications system, for all public safety entities operating within the state of Arizona.

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

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

Urban Areas

Overview of the Urban Areas in the State and to what extent they are mentioned in the SCIP

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 who can identify the agencies and disciplines included in the TICP.

Tucson was recently designated a UASI region, but has not yet prepared 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.

The TICP Scorecard recommendations outline the need to establish charters to encourage formal membership of decision-making groups; document and formalize the necessary agreements for Federal, State, local, and tribal partnerships; support partnerships on regional interoperability; encourage development of a regional interoperability funding strategy including the identification of long-term (e.g., three to five years) funding sources; consider the direct involvement of high-level elected officials with political and fiscal authority to champion communications interoperability in the area; establish a direct line of communication for the PSCC Interoperability Subcommittee to advocate with political and fiscal leaders at State and local levels; continue basic and advanced training and exercises on standard operating procedures (SOPs) to ensure all participating emergency responder agencies attain and maintain National Incident Management System (NIMS)/Incident Command System (ICS) compliance; involve Federal, State, tribal, and private sector organizations in training and exercises; and consider adding communications interoperability as a component in all future exercises.

In comparing the TICP Scorecard recommendations to the SCIP initiatives, it was found that most of Arizona's TICP Scorecard recommendations are directly or indirectly addressed in the SCIP. The recommendations are addressed through the following SCIP initiatives:

- Expansion of the communications governance model
- Development of a long-term funding strategy
- Development of a statewide comprehensive communications training and exercise plan
- Standardization of SOPs for statewide interoperable communications solutions
- Enhancement of cooperation with tribal entities and integrating them into interoperable communications functions

Governance and Funding

Overview of the governance structure and funding approach

Arizona's governance is a multi-level structure that was established to oversee interoperable communication efforts within the State. It consists of the Public Safety Communications Advisory Commission (PSCC), the State Interoperability Executive Council (SIEC) and the technical and operational subcommittees under the SIEC, and staff oversight and management of the PSCC and SIEC. Note: The Support Office was moved by statute in July 2008 from the Department of Public Safety (DPS) to the Government Information Technology Agency (GITA).

The PSCC was organized in 2000 and the PSCC charter was established into 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 public safety, police, fire, EMS, communications, sheriff, and the Arizona Department of Homeland Security. The GITA director functions in the role of chairman for the PSCC.

The SIEC serves as an advisory committee to the PSCC, and currently has authority over 700 MHz, VHF and UHF interoperability frequencies. It is an interactive working group that encourages broad participation from the emergency response community including State, local, and non-governmental representatives.

In addition to GITA, other State agencies, local government, tribal government, and non-governmental agencies are engaged in the efforts of the PSCC, and the creation and maintenance of the SCIP. Federal, county, tribal, and municipal leaders also serve on each of the five 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 within their regions. Arizona also has bi-national agreements with Mexico outlining that each party can provide assistance to the other in times of emergency or disaster, and provide training and exercise opportunities.

A proper review of the SCIP at least once a year starting in August 2008 is a part of the Review and Update Process identified in the SCIP. Input and review of changes to the SCIP will be conducted through public meetings open to all emergency responders.

Point of Contact for the state is currently Lisa Dee Meyerson who has replaced Curt Knight as the point of contact originally identified in the SCIP, and efforts are underway to recruit a full-time interoperability coordinator to report to Ms. Meyerson.

Lisa Dee Meyerson
Government Information Technology Agency
Strategic Initiatives Unit Chief
602-364-4780
lmeyerson@azgita.gov

Governance and Funding Initiatives

The following table outlines the strategic governance and funding initiatives, gaps, owners, and milestone dates Arizona outlined in its SCIP to improve interoperable communications.

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
# 3. Expand governance model.	Governance processes must evolve and mature.	PSCC	Short-term, High Priority	In process
# 6. Develop a long-term funding strategy.	A long-term funding strategy is needed for sustainability.	PSCC	Short-term, High Priority	Not Started

Supportive Objectives	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Conduct an annual SCIP review to update the plan.	Need to continually review and enhance the SCIP.	PSCC	Annual commencing Aug 08	In Process
Establish a full-time interoperability coordinator.	Need to address DHS requirement.	PSCC	Target Oct 08	In Process
Obtain and sustain legislative support on interoperability matters (# 6).	Legislative support for long-term funding strategy is essential.	PSCC	Short-term, ongoing	Not Started

Standard Operating Procedures

Overview of the shared interoperable communications-focused SOPs

The level of progress on SOPs in Arizona is high due to years of development in this area. SOPs are current and provide the required services and communications when they are needed.

The Arizona Department of Homeland Security (AZDOHS) has oversight responsibilities to ensure State plans are NIMS compliant in accordance with Arizona’s Governor’s Executive Order and the Presidential Directive. 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 MOUs comply with NIMS and the National Response Plan. In addition to city and county compliance, AZDOHS and the Department of Emergency and Military Affairs (AZDEMA) continue to assist tribal and local governments regarding NIMS compliance through regularly scheduled NIMS training courses and outreach programs.

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

SOP Initiatives

The following table outlines the SOP strategic initiatives, gaps, owners, and milestone dates Arizona outlined in its SCIP to improve interoperable communications.

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
#12. Standardize SOPs for statewide interoperable communications solutions.	Statewide interoperable communications solutions will require some additional standardization.	PSCC SIEC	Medium-term, Low Priority	Not Started

Supportive Objectives	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Publish user-based standards and guidelines (#12).	Statewide interoperable communications will require standards and guidelines.	PSCC SIEC	Medium-term	Not Started

Technology

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

Arizona operates on multiple State, regional, and local shared systems and the majority of land mobile radio (LMR) systems serving the more rural areas of the State are conventional VHF or UHF. The larger metropolitan areas have migrated or are in the process of migrating to 800 megahertz (MHz) trunked systems. The State systems operate mostly in the VHF radio band, with some in UHF and 800 MHz.

Arizona is currently evaluating a system-of-systems approach to interoperability within the state. One aspect of this strategy, subject to funding availability, is the development of a statewide 700 MHz digital trunked P25 radio system that could support State agencies and any Federal, local, tribal, or authorized non-governmental entities who desire access. The demonstration project for this system is currently interconnecting local 800 MHz P25 systems, utilizing a P25 Inter-Sub-System Interface (ISSI) to validate interoperable communications and seamless roaming between systems. The Phoenix and Yuma regional systems are participating in this project. The State encourages local and tribal government agencies to upgrade their radio systems so they are compatible with other state systems; however, if a local jurisdiction chooses not to migrate to 700/800 MHz technology, the state is planning to support interoperable communications by providing high-level network connections (i.e., console patching or permanent interconnections) to such systems.

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 the state, with a cross-band repeater configuration that allows communication between bands.

Interoperability in Arizona varies from agency to agency and county to county; however, most have AIRS channels programmed in their radios. 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. 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.

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 will be used to enhance existing STR assets.

In order to support the proposed technical initiatives, the State microwave system is being upgraded from analog to digital, subject to funding availability. This upgrade, being completed by the DPS Wireless Systems Bureau (DPS/WSB), is critical to statewide communications interoperability in Arizona.

The following table lists the major 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 and digital technology	Existing and being enhanced
AZ Interagency Radio System (AIRS)	VHF, UHF, 800 MHz conventional	Existing and being extended
Statewide 700 MHz System	P25 700 MHz digital trunked	Planned
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
EMSCOM, Veterans Memorial Coliseum, Shared Government Operations	UHF conventional	Existing

Regional System Name	Description	Status
Phoenix Regional Wireless Network (PRWN)	800 MHz P25, simulcast trunked	Existing
Mesa Regional System (TOPAZ)	800 MHz P25, simulcast trunked	Existing
Pima County Wireless Integrated Network (PCWIN)	800 MHz P25, simulcast trunked	Planned
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 the technology strategic initiatives, gaps, owners, and milestone dates Arizona outlined in its SCIP to improve interoperable communications.

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
# 1. Develop AIRS.	Need to address coverage gaps.	DPS/WSB	June 2009	In Progress
# 2. Enhance modern regional systems.	Local networks will require maintenance & enhancements to support multiple users.	PSCC	Medium-term, High Priority	In Progress
# 4. Upgrade the statewide microwave backbone infrastructure.	Connectivity for statewide systems.	DPS/WSB	2007-2013	In Progress
# 5. Develop a comprehensive plan to address catastrophic communications loss.	Enhance STR.	AZDEMA	Short-term, High Priority, PSIC grant	In Progress
# 7. Develop a statewide communications migration plan.	Need a migration strategy against which projects will be evaluated.	PSCC	Medium-term, Medium Priority	Not Started
# 8. Develop the PSCC long-term solution - high-level network connections component.	Connecting non-700/800 MHz systems to the State backbone.	PSCC	Long-term, High Priority	Not Started
#11. Develop a plan for statewide data interoperability.	Needs are to be determined.	PSCC	Long-term, Medium Priority	Not Started

Supportive Objectives	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Complete the Microwave Southern Loop (# 4)	Critical portion of Microwave backbone	DPS/WSB	June 2009	In Progress
Implement demonstration project for Phoenix and Yuma regional systems. (# 8)	Need to validate interoperable communications and roaming	PSCC	2008	In Progress

Training and Exercises

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

AZDEMA has an extensive outreach program for training and exercises, with a schedule posted on its Web site. AZDEMA actively recruits participants in its training classes by contacting the local government EOCs, promoting the training classes, and explaining how to participate in them.

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. The second training and exercise program is conducted by the State and often deals with matters of State and national security. 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. Additionally, each year local governments conduct their own training and exercise programs, which are generally multi-disciplinary and inter-jurisdictional within a county government.

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 all 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 AZDEMA training program is designed to instruct emergency responders in NIMS and other communications courses; **however, the State does not maintain a separate training class or curriculum for interoperable communications.**

The State delivers ICS training as a part of the statewide training program. 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). Additionally, one of the few nationwide train-the-trainer instructors is a PSCC member.

Exercises

The State has an extensive training program conducted both by individual agencies and AZDEMA. Exercises are offered to State agencies as well as tribal governments. Interoperable communications equipment and SOPs are exercised regularly. These exercises are conducted with other levels of government and include After Action Reports (AAR) and Improvement Plans (IP) published for all full-scale and tactical exercises. During October 2007, Arizona participated in the national-level Top Officials 4 (TOPOFF-4) exercise. TOPOFF-4 was used as an opportunity for the State to learn more about issues that are driving the Nation's defense priorities as well as learning more about Arizona's vulnerabilities.

Training and Exercises Initiatives

The following table outlines the training and exercises strategic initiatives, gaps, owners, and milestone dates Arizona outlined in its SCIP to improve interoperable communications in the State.

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
#10. Develop a statewide, comprehensive communications training and exercise plan.	Training curriculum must	PSCC	Medium-term, Medium Priority	In Progress

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
	address all interoperability initiatives.			

Supportive Objectives	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
Develop COML and COMT classes (#10).	Expand availability of COML/COMT training	PSCC	Short-term	In Progress

Usage and Outreach

Overview of the usage and promotion of interoperability solutions

The use of interoperable communications is routine and handled at a jurisdictional level rather than as an over-arching statewide process. The concept of interoperability is promoted through an 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. Arizona does not use a common, statewide radio system with the exception of AIRS. 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. Mutual aid frequencies, on which AIRS operates, are not used for pre-planned events. AIRS is more often used for localized emergency incidents rather than regional interoperability at this time, however its use is expected to increase as availability increases.

The State recognizes a gap in outreach efforts and is recruiting an outreach manager to promote interoperability awareness, initiatives and best practices throughout Arizona. The intent is to encourage and coordinate collaborative efforts, and to identify and help address state, regional and local barriers to advancing interoperability solutions and usage.

Usage and Outreach Initiatives

The following table outlines the usage and outreach strategic initiatives, gaps, owners, and milestone dates Arizona outlined in its SCIP to improve interoperable communications in the State.

Initiative	Gap	Owner	Milestone Date	Status (Complete, In Progress, Not Started)
# 9. Develop a statewide communications plan addressing mass transit, transportation, and ports.	In the event of a major incident, the need to communicate with mass transit,	PSCC	Short-term, Medium Priority	Not Started

Initiative	Gap	Owner	Milestone Date	Status <i>(Complete, In Progress, Not Started)</i>
	transportation, and ports becomes critical for evacuation of areas of the state.			
#13. Develop an Interstate Interoperability Plan.	Emergency operations across state lines may require interoperability for mutual aid efforts.	PSCC	Long-term, Low Priority	Not Started
#14. Improve cooperation with and the integration of tribal entities into interoperable communications functions.	Low level of involvement from the tribal communities on interoperability projects.	PSCC	Long-term, Medium Priority	Not Started
#15. Develop an interoperable communications strategy with Mexico.	Emergency operations occurring near the border may require interoperability for mutual aid efforts.	PSCC	Long-term, Low Priority	Not Started
#16. Create an education and communications program in support of expanding interoperability.	To ensure key stakeholders, policy members, and practitioners understand the issues, and current/desired future state of interoperability in AZ.	PSCC	Medium-term, Medium Priority	Not Started

Supportive Objectives	Gap	Owner	Milestone Date	Status <i>(Complete, In Progress, Not Started)</i>
Establish a full-time interoperability outreach manager.	Need for additional outreach.	PSCC	Target Oct 08	In Process