

**Arizona Department of Homeland Security
FFY08 State Homeland Security Grant Program (HSGP)
Interoperability Projects Grant Guidance**

Category # 1 Modern Regional System Enhancement

The intent of this category is to create a cost-effective, shared environment of improved interagency communications in areas throughout the State where progress has already been made or is being planned. The objective is to encourage expanded coverage and capacity of existing regional systems, operating in a P25 compliant 700/800 MHz trunked environment, which closely parallels the Public Safety Communications Committee's (PSCC) long-term solution. Examples of currently recognized regional systems include Phoenix/Mesa (PRWN/TOPAZ), Yuma County (YRCS), Pima County (PCWIN), Coconino County (NAU/FLAG PD), and Maricopa County.

An application under this category must include one of the following for consideration:

A - Local Jurisdiction or Other State Agency; System Owner/Manager

1. Radio frequency base stations and control electronics.
2. Mobile, portable, and control station radios.
3. Remote communication site development to expand, modernize or to construct shared sites. Purchase, construction, and installation of antenna support structures (towers), construction or enhancement of equipment shelters, civil work, or power systems.
4. Private microwave or fiber connections to the State backbone or local Network Operations Center.

B - Local Jurisdiction & Other State Agency; Non-system Owner

1. Radio frequency base stations and control electronics, necessary to develop the required coverage and capacity to join a regional system.
2. Mobile, portable, and control station radios.
3. Remote communication site development to expand, modernize, or construct shared sites. Purchase, construction, and installation of antenna support structures (towers), construction or enhancement of equipment shelters, civil work, or power systems. In order to join a System, funding must be in the form of a pass-through to the State or regional receiving partner to expand or add to the State or regional system, subject to scheduling and availability as determined by the receiving partner and required Department of Public Safety (DPS)/Wireless Systems Bureau (WSB) support.

Category #2 State Microwave Backbone Infrastructure

The State's microwave network provides the infrastructure necessary to connect remote communication sites together. A multitude of agencies (State, county and federal users) currently rely on the existing DPS analog microwave network which is obsolete, no longer supported by manufacturers, and not capable of supporting modern communications systems. To advance the State's goals of constructing a modern interoperable land mobile radio network, the State will need to install digital microwave equipment. With an upgraded digital microwave infrastructure, the State will have the backbone required for a modern, standards-based interoperable radio network. Once the digital statewide microwave network is completed, other local, State, Tribal, federal and authorized non-governmental entities will have the capability of joining the statewide network for their day-to-day operations as well as for interoperability. The microwave system will also foster a broad level of interoperability with existing regional systems by network-to-network connections through the microwave backbone.

In addition to the new microwave equipment that will need to be installed; power supplies, battery systems, and standby generators may need renovation or replacement as well.

An application must include one of the following for consideration under the Microwave Backbone Infrastructure category:

- A. Remote communication site development to expand, modernize, or construct shared sites. Purchase, construction, and installation of antenna support structures (towers), construction or enhancement of equipment shelters, civil work, or power systems.**
- B. Transfer of funds or transfer of microwave equipment in order to expedite this solution for a specific regional area; however, DPS/WSB will still retain ALL authority over microwave specifications and scheduling.**

Category #3 Arizona Interagency Radio System

The focus of the Arizona Interagency Radio System (AIRS) project is the development of a near-term statewide interoperability solution to immediately improve radio communication between agencies utilizing public safety mutual aid radio channels. The Statewide Communications Interoperability Plan (SCIP) recognizes the significant investment in the installed base of VHF and UHF systems serving many local and federal agencies and the need to provide advanced technology solutions to connect these existing systems. The first step is a network of mutual aid channels to the State's 700 MHz trunked system.

The primary objectives of AIRS are:

- To improve coverage in all counties by upgrading and adding VHF, UHF, and 800 MHz base stations statewide.
- To establish and expand the use of statewide and nationwide mutual aid frequencies throughout the State.
- To enable multi-channel capabilities for statewide and regional use.
- To establish operational procedures in order to facilitate communications for first responders.

In addition to requiring a Memorandum of Understanding (MOU) with the PSCC for AIRS, an application must include one of the following for consideration under this component:

A - Control Stations to be purchased for single-channel access to a local AIRS site, which may include:

1. Expansion of an existing radio dispatch console. Expansion may include more than one channel position based on the system's current configuration. Radio dispatch console replacement is not allowed with these funds.

2. Purchase and installation of the necessary VHF, UHF, or 800 MHz antenna and feedlines. Replacement, structural improvements, or new construction of antenna support structures are not allowed with these funds.

B - Private microwave or fiber connections to the DPS microwave backbone or local network operations center (NOC) for regional access to multiple AIRS sites. If applying for microwave equipment, the path must be licensed under FCC Part 101 and protected by either a "hot standby" configuration or alternate routing. DPS/Wireless Systems Bureau (WSB) will retain ALL authority over microwave specifications and scheduling. The private microwave or fiber connection may include:

1. Multiple channel dispatch console expansion
2. Purchase and installation of necessary antenna(s) and feedlines. Limited structural improvements to an existing tower may be considered.

Category #4 High-Level Network Connections to Existing Regional Systems

While the goal of the Statewide Plan is to create a cost-effective, shared environment of improved interoperable communications, it is also understood that there are regional multi-user systems operating in the VHF spectrum throughout the state today. The SCIP recognizes the significant investment in this base of equipment serving many local and federal agencies and the need to provide advanced technology solutions to connect existing systems whenever and wherever possible. Local governments are urged to prepare their systems to enable connectivity and compatibility with the new statewide network. For existing VHF spectrum regional multi-user systems, network level interoperability solutions with the statewide system should be considered, such that they can continue to utilize existing radio equipment but connect with the statewide solution when it is possible and beneficial to do so.

The objective is to encourage local governments to establish, modernize, expand capacity and/or provide alternate routes for high-level network connections to the PSCC Long-Term Solution or expanded Regional Systems from existing regional multi-user systems operating in the VHF spectrum.

An application under this category must include one of the following for consideration:

- 1. Private microwave or fiber connections to the State or regional backbone or local NOC.**
- 2. Remote communication site development to expand, modernize, or to construct shared sites. Purchase, construction, and installation of antenna support structures (towers), construction or enhancement of equipment shelters, civil work, or power systems.**
- 3. 700/800 MHz control stations to provide Public Safety Answering Point (PSAP) connections to the PSCC Long-Term Solution and/or an existing Regional System.**

In order to join a System, funding must be in the form of a pass-through to the State or regional receiving partner to expand or add to the state or regional system, subject to scheduling and availability as determined by the receiving partner and required DPS/WSB support.

Category #5 PSCC Long-Term Solution

In a series of regional forums, the PSCC has presented the conceptual design for a statewide interoperable communications system, which will build on the spectrum efficiency already incorporated into the regional

800 MHz multi-use trunked systems serving Arizona's largest metropolitan and urban population center areas today. The statewide solution will provide a common fabric between existing multi-user systems. The SCIP outlines the progressive development of a statewide 700 MHz, trunked, Project 25 solution to serve as Arizona's common interoperable communications platform through a multi-phased approach. That approach will begin with those existing systems in high-density populated areas, along transportation corridors and designated portions of the international border recognized as high-risk areas for acts of terrorism, and will expand out from there.

An application under this category must include one of the following for consideration:

- 1. Radio Frequency base stations and control electronics, necessary to develop the required coverage and capacity to join the statewide system.**
- 2. Mobile, portable, and control station radios.**
- 3. Remote communication site development to expand, modernize or to construct shared sites. Purchase, construction, and installation of antenna support structures (towers), construction or enhancement of equipment shelters, civil work, or power systems.**
- 4. Transfer of funds or equipment in order to expedite this solution for a specific regional area; however, DPS/WSB will still retain ALL authority over equipment specifications and scheduling.**