PROJECT 25

In Arizona

REGIONAL PROJECT 25 SYSTEMS

REGIONAL WIRELESS COOPERATIVE (RWC)

Integrated Voice & Data trunked radio system

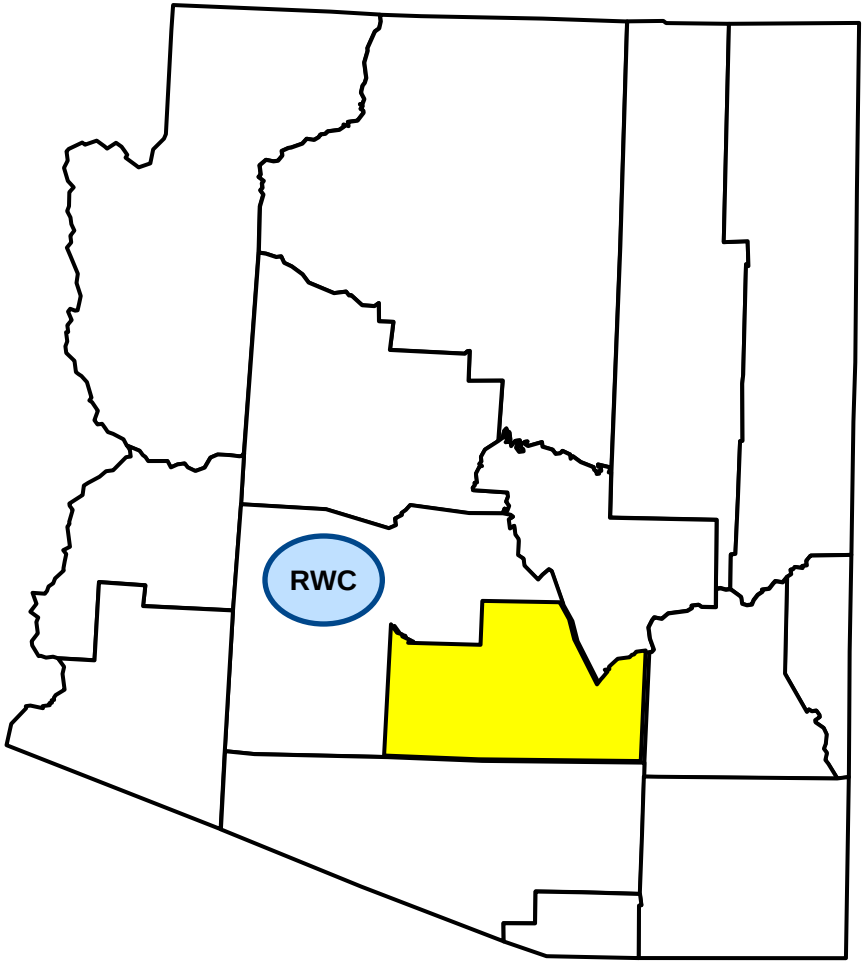
- Radio system
- Dispatch
- Site development
- Backhaul
- Integration

System completed in 2005

Supports 23 cities, towns and fire districts in the greater Phoenix metropolitan area

19,600 front-line member users and over 6,800 non-member interoperability

Provides seamless, wide area coverage across the entire metropolitan area



REGIONAL PROJECT 25 SYSTEMS

TOPAZ REGIONAL WIRELESS COOPERATIVE (TRWC)

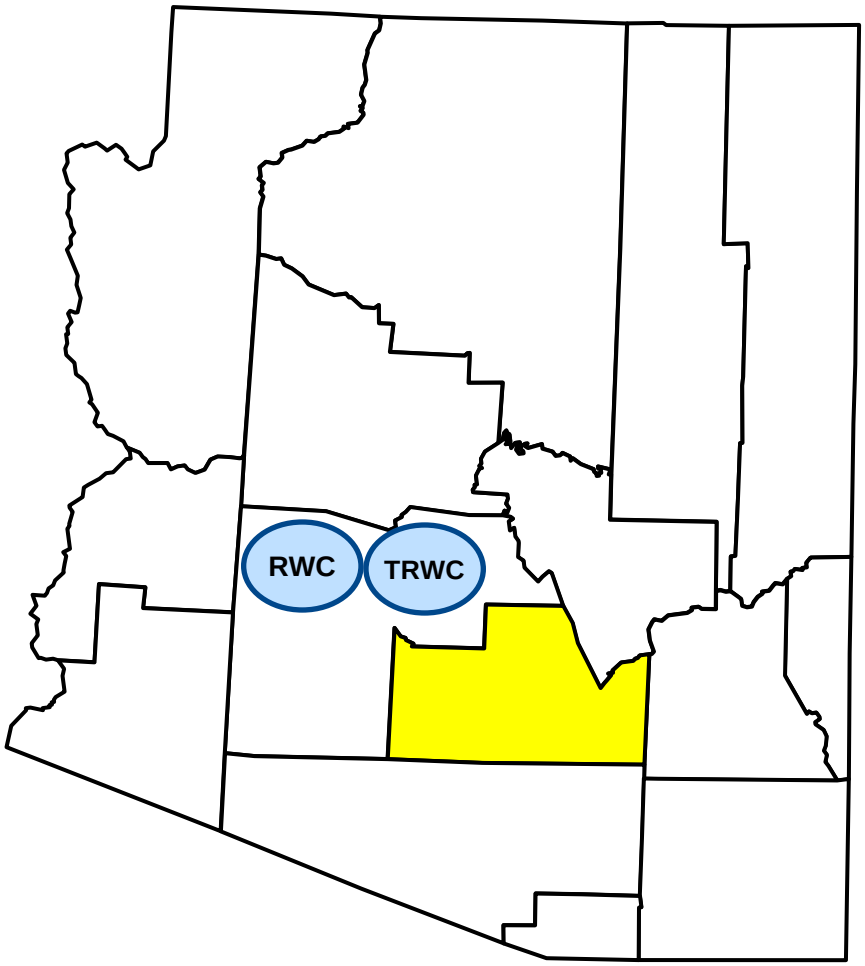
Integrated Voice & Data trunked radio system

- Radio system
- Dispatch
- Integration

3,700 front line users

Supports 5 cities, towns and fire districts in the greater Mesa/Phoenix metropolitan area

Covers the East Valley: Cities of Mesa and Apache Junction; Towns of Gilbert, and Queen Creek



REGIONAL PROJECT 25 SYSTEMS

YUMA REGIONAL COMMUNICATIONS SYSTEM (YRCS)

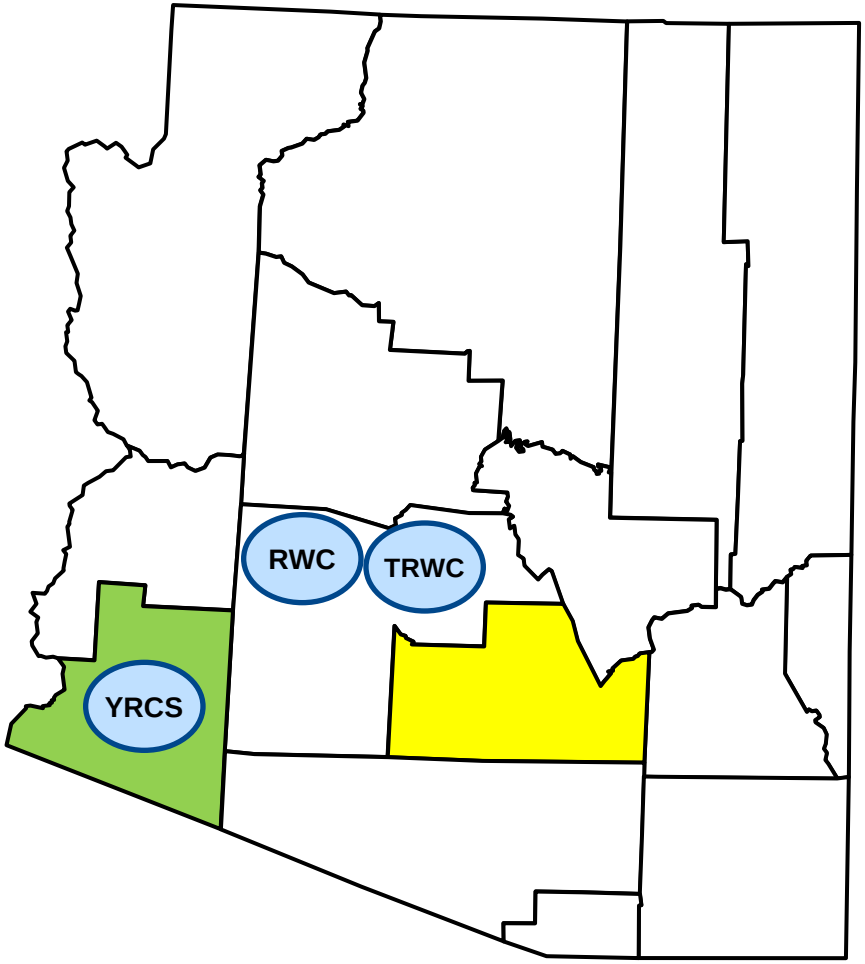
Trunked radio system

Activated in 2007

4,200 front line users

Participants

- Quechan Indian Tribe
- Cocopah Indian Tribe
- Colorado River Indian Tribe
- FBI
- ATF
- U.S. Customs and Border Patrol
- Marine Corps Air Station
- US Army Yuma Proving Grounds
- Yuma Regional Medical Center
- Rural Metro
- Air Medvac services



REGIONAL PROJECT 25 SYSTEMS

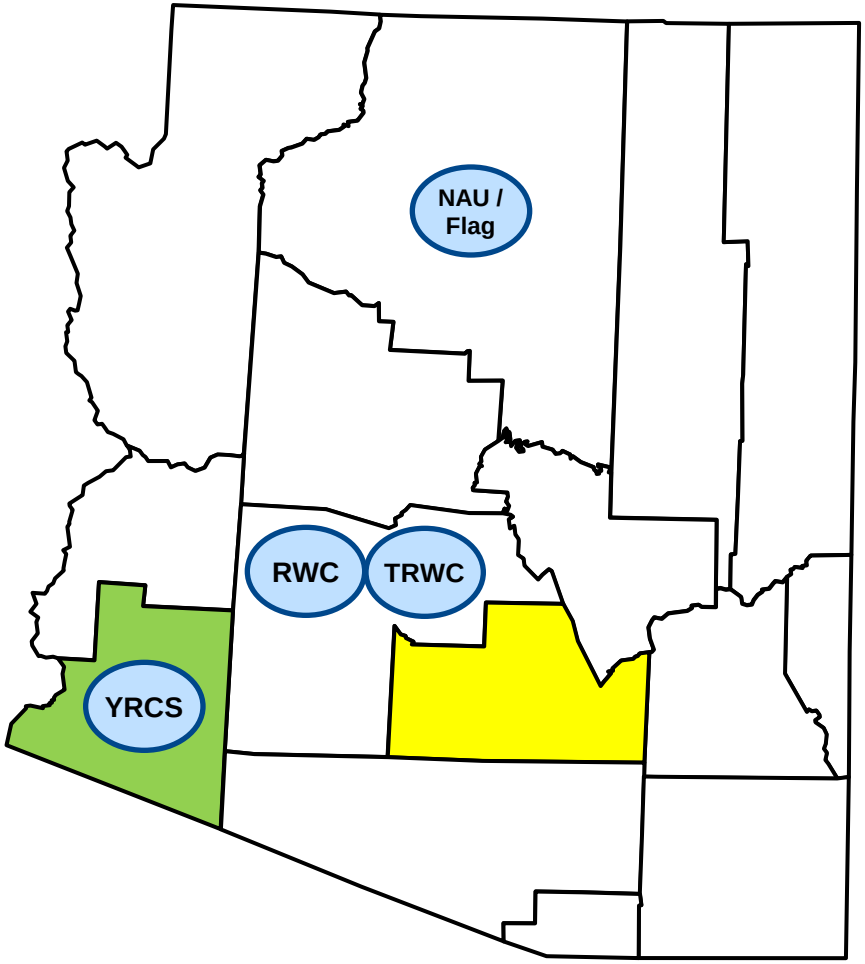
NORTHERN ARIZONA UNIVERSITY / CITY OF FLAGSTAFF EMERGENCY RADIO SYSTEM

ASTRO 25, Integrated Voice & Data trunked radio system

- Radio system
- Dispatch
- Integration

750+ Front Line Users

Two (2) Separate Comm Centers



REGIONAL PROJECT 25 SYSTEMS

PIMA COUNTY WIRELESS INTEGRATED NETWORK (PCWIN)

ASTRO 25, Integrated Voice & Data trunked radio system

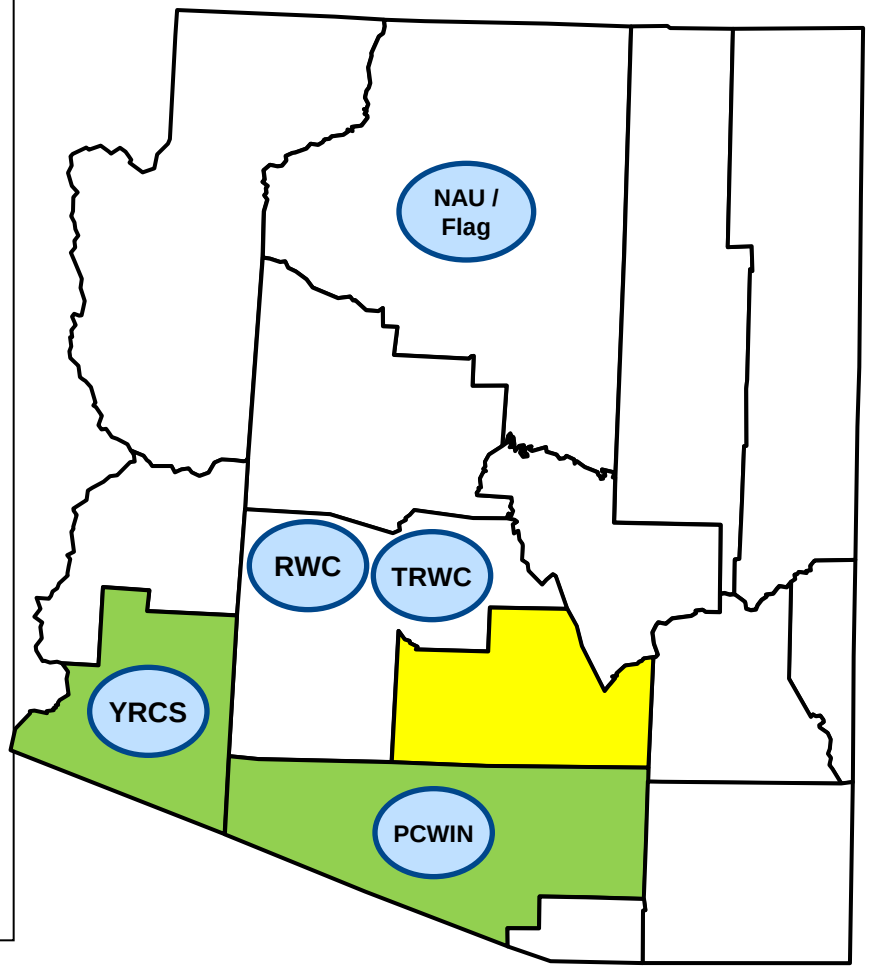
FIRST P25 PHASE 2 TDMA NETWORK IN THE STATE OF ARIZONA

- Radio system
- Dispatch
- Integration

9,000 front line users

Supports 30 public safety agencies

10 Dispatch Centers / 85 MCC7500



REGIONAL PROJECT 25 SYSTEMS

MARICOPA COUNTY

Integrated Voice & Data trunked radio system

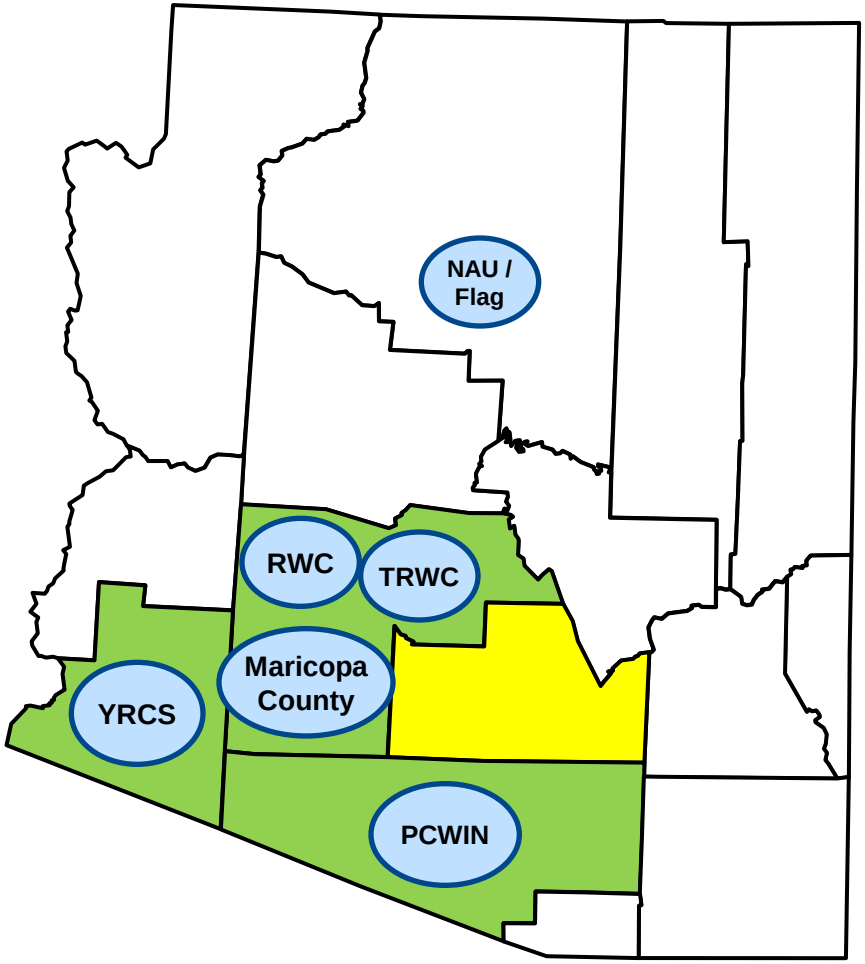
800 MHz Systems

- Radio system
- Dispatch
- Integration

Maricopa County Sheriff's Office

Other Maricopa Departments

- Public Works, Animal Control, etc.



REGIONAL PROJECT 25 SYSTEMS

COCHISE COUNTY

Integrated Voice & Data trunked radio system

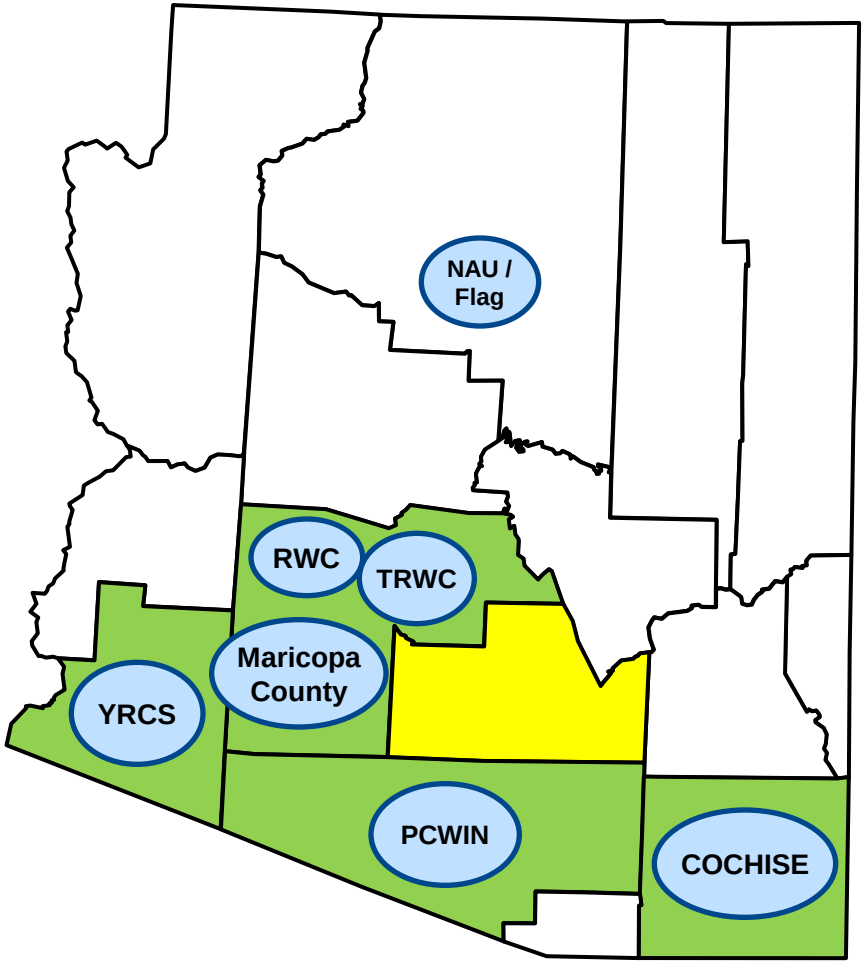
700 MHz & VHF Systems

- Radio system
- Dispatch
- Integration

Two (2) Comm Centers

Cochise County Sheriff's Office

Sierra Vista Police Department



REGIONAL PROJECT 25 SYSTEMS

ARIZONA WIRELESS INTEGRATED NETWORK SYSTEM

P25 sites connected to YRCS

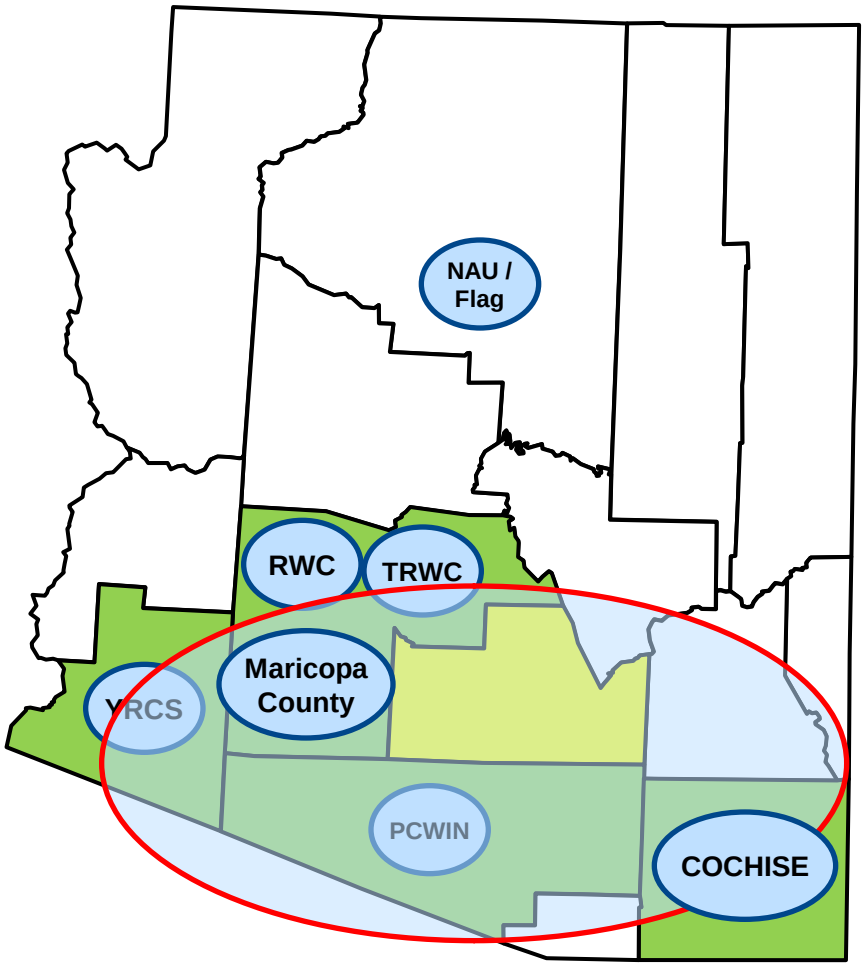
Deployment began in 2010

Partnership and sharing of System resources with YRCS

DPS Criminal Investigations & various districts and specialty units

ADOT

Border expansion in 2012



OTHER STAND ALONE PROJECT 25 SYSTEMS

MULTIPLE LOCAL SYSTEMS

Gila River Indian Community
(Pinal County)

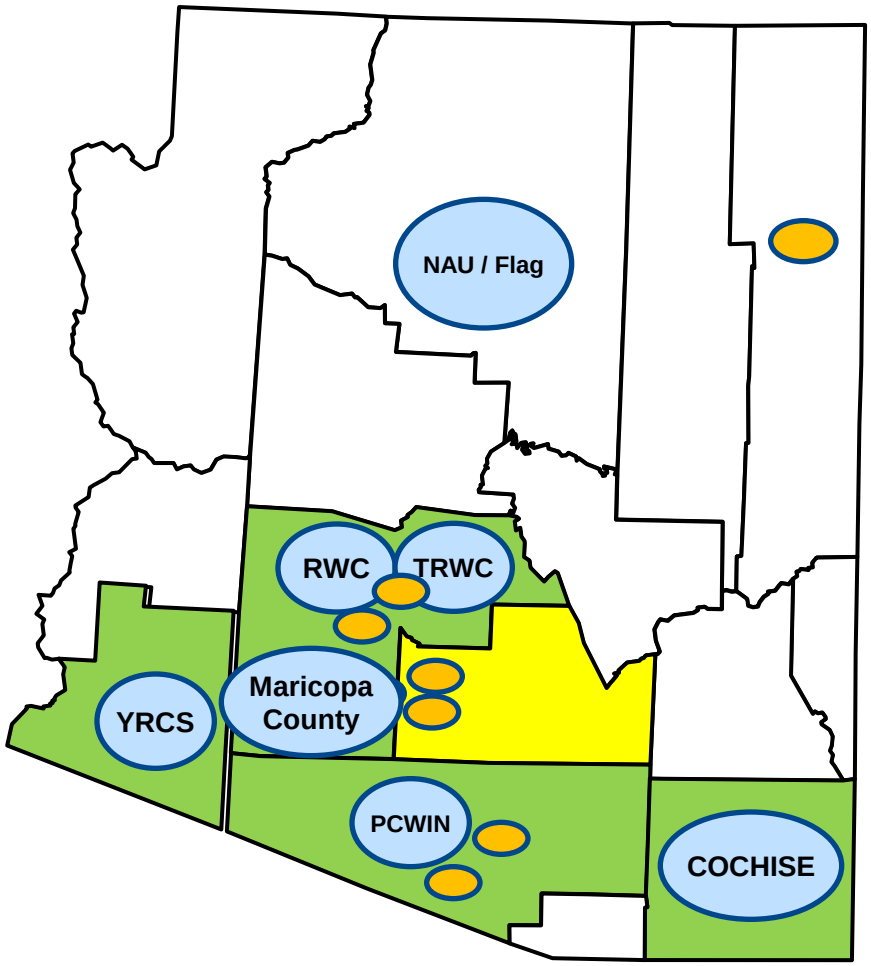
Ak-Chin Indian Community
(Pinal County)

Salt River Pima-Maricopa Indian Community ***(Phase II – TDMA)***

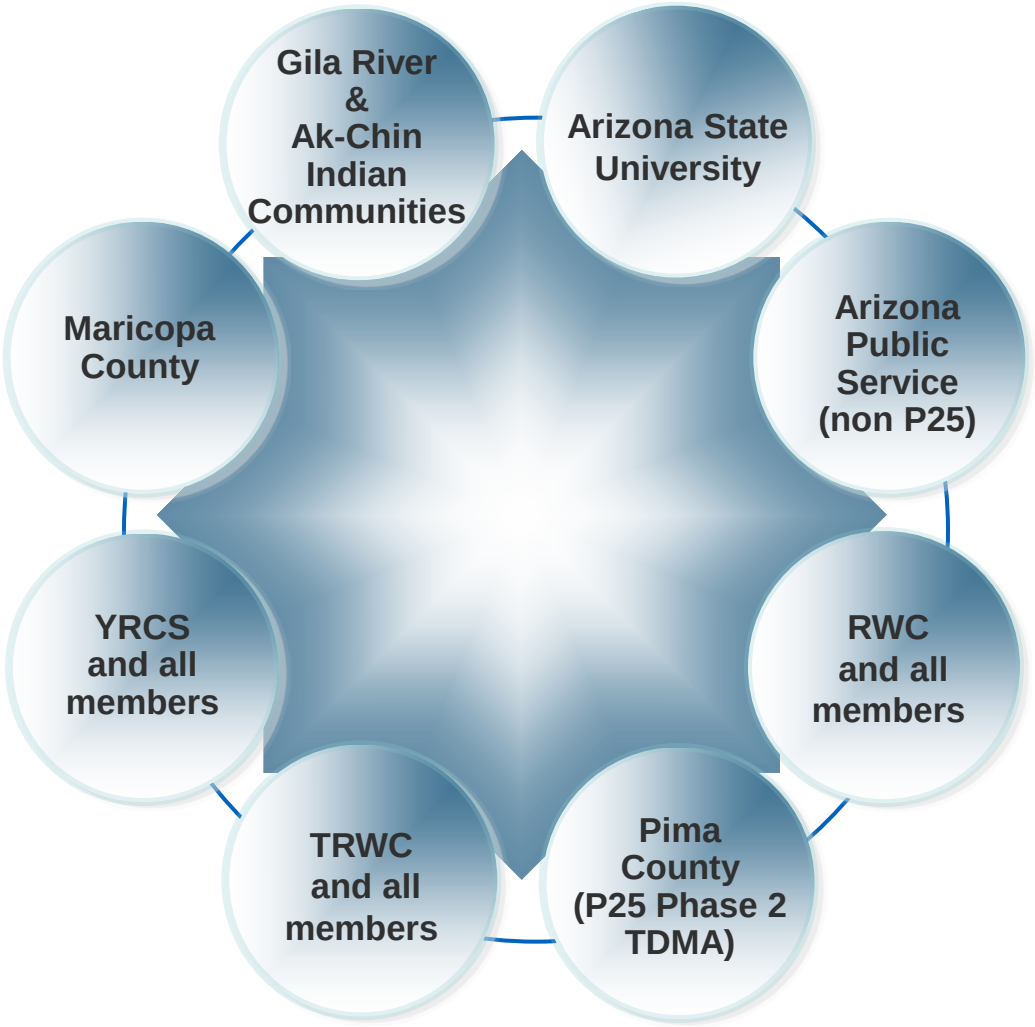
Town of Marana

Tucson Electric Power

Arizona State University

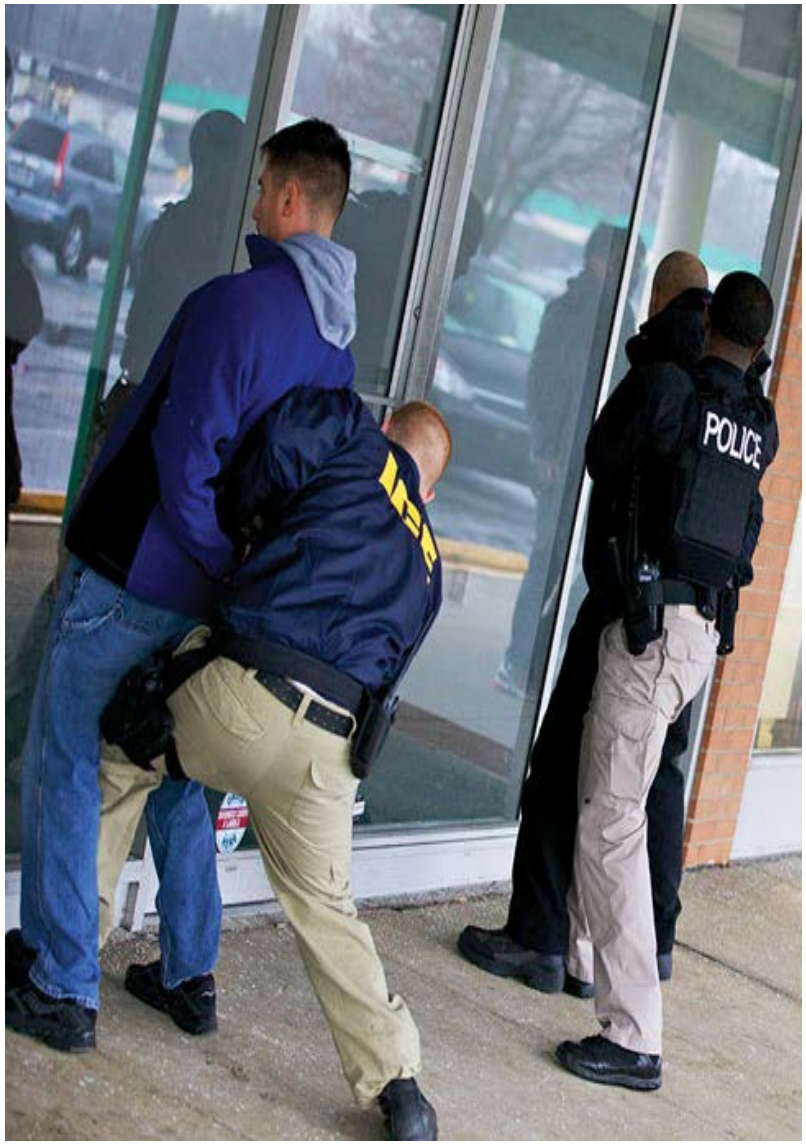


ON THE BELT INTEROPERABILITY



- Project 25 Phase 2 TDMA or Phase 1 FDMA
- Analog & Digital Channels
- Conventional systems
- 700/800 MHz RF bands
- VHF MHz RF bands

EQUIPMENT LIFECYCLE



MTR2000 BASE STATION
19 IN PLACE TODAY, SHIPPED 2003-2007
DISCONTINUED 2010

QUANTAR BASE STATIONS
BEGAN SHIPMENTS IN 1992
DISCONTINUED DEC 2011

GOLD ELITE DISPATCH CONSOLES
BEGAN SHIPMENTS IN 1995
DISCONTINUED DEC 2011

XTS & XTL Portable & Mobile RADIOS
5000 SERIES DISCONTINUED OCTOBER 2013
2500 SERIES DISCONTINUED OCTOBER 2014

GTR8000 BASE STATION
CURRENTLY SHIPPING PRODUCTS
Future Ready Technology

APX Portable & Mobile RADIOS
CURRENTLY SHIPPING PRODUCTS
Future Ready Technology

MCC7500 DISPATCH CONSOLES
CURRENTY SHIPPING PRODUCT
Future Ready Technology

THANK YOU

PINAL COUNTY'S REQUIREMENTS

MINIMUM REQUIREMENTS AND KEY BENEFITS

- County-wide coverage, free of interference
  - Improvements in ***OFFICER SAFETY***
  - In-building, populated areas
  - Mobile AND portable radios
  - Alternative frequency bands (e.g. 7/800MHz)
- Technology that improves ***OPERABILITY***
  - Simple push-to-talk without concern for particular location
  - Reliable connection with dispatchers
- Technology that provides seamless ***INTEROPERABILITY***
  - VHF users
  - 7/800MHz users
  - Inter-agency throughout Pinal County and beyond County borders
- Future-ready
  - Location services (GPS/AVL)
  - Silent dispatch, messaging, broadband integration (LTE)

NEXT STEPS, POTENTIAL SOLUTIONS

LEVERAGE RECENT STUDIES, TAKE STEPS TO VALIDATE

- Finalize the preferred approach
  - Small projects phased over multiple years?
  - Large project resulting in immediate improvements?
- Determine the relative “size” of the system based on **<u>coverage requirements</u>**
  - Pima County: 9,200 sq miles. 27 repeater sites
  - Pinal County: 5,400 sq miles. Roughly 15-20 sites
- Determine method of interconnectivity (microwave backbone)
  - Leverage existing tower-site assets
  - Develop a dedicated backbone (avoid the “weakest link”)
  - Evaluate co-location of microwave and radio sites (conserve $$)
  - 15-20 radio sites = minimum 15-20 microwave sites
- End-user radios and dispatch centers – develop accurate requirements
  - ~700 radios sold by Motorola dating back to 2005 (500 ea. discontinued)
  - Additional estimates equate to roughly 1,000 total radios owned by County
  - 5 PSAPs throughout County, will they all connect to the new system?

BENEFITS TO PINAL COUNTY

WITH THE EXISTING REGIONAL SYSTEMS THROUGHOUT ARIZONA, THE ADDITION OF PINAL COUNTY TRANSLATES TO…

- Unbeatable interoperability in Arizona
- Reliable coverage throughout Pinal County and beyond
- Survivability through redundancy
- Future ready technology