



# ***Arizona Public Safety Broadband Network Request for Proposal***

***Solicitation No. ADSPO17-00006745***

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## **1. Solicitation and Background Information**

The State of Arizona (State) invites qualified entities to submit a proposal for the design, installation, and operation of a statewide broadband wireless system to serve Arizona public safety entities that is fully interoperable now and in the future with the First Responder Network Authority (FirstNet) National Public Safety Broadband Network (NPSBN). It is the intent of this request for proposal (RFP) to provide an alternative to the offer from FirstNet and its selected contractor. Subject to the limitations contained in this RFP, the State will consider the responses to this RFP in weighing its options for an Arizona Public Safety Broadband Network (APSBN).

### **1.1. Middle Class Tax Relief and Job Creation Act of 2012**

In February 2012, the Middle Class Tax Relief and Job Creation Act (Act) was signed into law. The Act, among other things, created FirstNet as an independent authority within the National Telecommunications and Information Administration (NTIA). FirstNet was given the license to 20 megahertz (MHz) of spectrum within the 700 MHz band and charged with constructing an NPSBN dedicated to the needs of public safety. The network is expected to be built across all 50 states, plus six territories, and is intended to provide ubiquitous interoperability between jurisdictions. Massive planning efforts for the network have been underway since the date of the Act, and are expected to continue through 2022, the date mandated by the Act for the network to be fully functional.

FirstNet issued an RFP on January 16, 2016, that is intended to result in the issuance of an Indefinite Delivery Indefinite Quantity (IDIQ) contract in the manner of a public-private partnership (PPP or 3P) to design, build, and operate the NPSBN. Proposals were due May 31, 2016; a review process is underway and is expected to be completed in November 2016.

Under the Act, the Governor of each state and territory will receive a plan for deployment of the NPSBN in their jurisdictions. Governors will be provided a review period of 90 days during which a decision will be expected as to whether the state or territory will accept the offer or “opt-out.” A decision to opt-out triggers a period of 180 days within which time a state plan is required to be submitted to the Federal Communications Commission (FCC). The FCC intends to issue regulations for the opt-out process by the end of the fourth quarter of 2016.

A decision to opt-out places responsibility with a respective state for the design, implementation, and operation of a Radio Access Network (RAN) that is fully compatible with FirstNet.

### **1.2. Disclosure and Intent**

The State has not made a decision to accept the proposal made by FirstNet for an NPSBN to serve public safety entities in Arizona. Neither has the State chosen to opt-out of the FirstNet offered RAN to serve its public safety entities.

**It is the intent of this document to provide a basis on which to weigh the options available to the State that will satisfy the anticipated 25-year requirements for a wireless public safety broadband network in Arizona.**

No funds have been appropriated by the Arizona Legislature to enter into an agreement with a supplier of goods and services described in this RFP.

The State reserves the right to terminate this RFP for any or no reason.

### **1.3. Invitation**

The State invites qualified entities to propose the design, implementation, and operation of a wireless PSBN that meets the needs established in this document. The APSBN, expected to serve the State's public safety entities, shall be fully compatible with the FirstNet NPSBN. If the State of Arizona elects to move forward with this project, it is anticipated that the APSBN will operate under a spectrum manager lease agreement for access to Band 14 of the 700 MHz spectrum licensed to FirstNet.

This RFP follows an objectives-based approach, in contrast to a requirements-based RFP in which much detail is contained. Objectives are generally in parallel with those expressed in the FirstNet RFP.

If the State elects to move forward with this project, it will be on the basis of an opt-out decision made by Arizona Governor Douglas A. Ducey. If the Governor elects to opt-out, the State will prepare, with the assistance of its consultants and selected contractor, a plan to be submitted to the FCC outlining the APSBN and the ability of the State, its public safety entities, and the selected contractor to build, operate, and maintain a RAN to be interconnected with FirstNet.

### **1.4. Public-Private Partnership**

This RFP contemplates a PPP with an entity (the Partner) that meets the qualifications of a wireless network operator with one or more national wireless networks for roaming service. A consortium or team that provides the equivalent services will be considered for qualification. The Partner will provide network design, deployment, operations, maintenance, and customer support for public safety entities in Arizona.

This RFP describes a PPP that complies with Arizona Revised Statutes Section 2, Title 28, Chapter 22, Public-Private Partnerships in Transportation.

It is the intent of the State to receive and evaluate proposals from potential Partners to provide the services required to permit the State to consider an opt-out from the NPSBN for the purposes of operating a RAN that fully meets the needs of its public safety entities.

## **1.5. Qualification of Proposers**

The State will follow a two-step process in the selection of a potential Partner for the design, construction, provision, operation, maintenance, and management of the APSBN. The first step is to qualify each potential proposer to determine its capability to meet all requirements necessary to successfully provide all services defined in this RFP. The RFP contemplates an initial contract term of five years, with four additional five-year renewal terms, subject to the terms and conditions of an agreement between the state and the Partner, not to exceed 25 years.

Each potential proposer shall provide a statement of qualifications that addresses the contents of each heading in Appendix D, Qualification of Proposers, contained in this RFP. Statements of qualification are to be submitted with proposals; refer to section 2.1, Schedule of Events, within this RFP. Responses will be reviewed by the State and all qualified proposers will be contacted within four weeks after receipt of proposals to attend a consultation meeting. Proposals submitted by qualified firms will be further evaluated by the State.

The State contemplates entry into a spectrum manager lease agreement with FirstNet, which will provide for monetization of the excess capacity of the 20 MHz of Band 14 spectrum within Arizona by its Partner for the purposes of providing commercial service to end users.

Toward this end, proposers shall establish their ability to perform the duties expected of the Partner, including provision of required financing in excess of that possibly provided by a grant from the NTIA.

Roaming provisions on a national wireless carrier during the initial operational stages of the APSBN shall be a requirement of the Partner. Proposers shall demonstrate their ownership and management of a commercial wireless broadband network based on long-term evolution (LTE) technology compatible with the requirements of FirstNet or shall have a teaming partner that owns and operates such a network and is committed to a 25-year marketing and interoperability agreement with the proposer.

Proposers shall demonstrate their financial capability to invest and sustain the APSBN for a minimum of 25 years from award of contract. Such demonstration of capability shall include audited financial statements for the five years prior to submission of the proposal. Letters of credit, or commitments, from a financial institution(s) shall be provided that demonstrate the ability to make the required investment in the network and that provide for working capital between payments from the State.

A complete list of the required documentation and a description of qualifications is contained in Appendix D of this RFP.

## **1.6. State SLIGP and Other Planning Activities**

Arizona has completed data collection and analysis associated with an NTIA State and Local Implementation Grant Program (SLIGP) grant to provide baseline information about its public safety entities, calls for service, crime statistics, and other details that may be useful in the design of a RAN. This information is contained in section 3.3, User Survey Results, in this RFP.

This RFP contains a summary of the data collected from stakeholders, and presents the FirstNet baseline coverage objectives and a comparison of FirstNet regulations. The State has identified requirements beyond those areas covered under the FirstNet baseline, such as its southwest border with Mexico, the northwest area around Grand Canyon National Park, tribal lands, and rural coverage.

Proposers are encouraged to provide solutions that meet the needs of the State to a greater degree than the FirstNet baseline coverage. Creative solutions by proposers are sought and encouraged.

## **1.7. Confidentiality of Data Supplied**

Certain critical infrastructure information may be provided during this procurement to qualified proposers that is sensitive and confidential. This information may concern existing telecommunications infrastructure and software applications in use by the public safety entities in Arizona. At such time this information is provided to qualified proposers it will be protected by a non-disclosure agreement (NDA) between the parties.

## **1.8. State Options**

The State of Arizona has made no decision regarding whether to accept a proposal from FirstNet or to opt-out. It is the purpose of this RFP to explore options that are available to the State that will be most responsive to the needs of public safety entities and which will be sustainable over the coming 25-year period.

It is clear to the State that if it chooses to opt-out, it will need a Partner with wireless network experience at the national level, financial stability, consumer sales channels, and access to a legacy network(s) that provides both LTE coverage and capacity in Arizona as well as the rest of the United States for roaming purposes.

Arizona will carefully review and consider the state plan prepared by FirstNet when it is available. A basis for review of the plan is data on the defined needs of Arizona public safety entities compared with the details of the FirstNet proposal.



## **1.9. Authority of the State**

### **1.9.1. Public-Private Partnership**

Arizona Revised Statutes Section 2, Title 28, Chapter 22, Public-Private Partnerships in Transportation, is administered by the Arizona Department of Transportation. This statute permits the State to enter into an agreement with a private entity to develop and operate eligible facilities using a variety of project delivery methods and forms of agreement (ARS 28-7703).

### **1.9.2. Evaluation Process**

In evaluating proposals, the Department of Administration, State Procurement Office division (the State) as authorized under A.R.S. § 41-2501, may grant such relative weight to factors such as cost, financial commitment, innovative financing, technical, scientific, technological, or socioeconomic merit, and other factors as the Department deems appropriate to obtain the best value for the State.

## **1.10. Public Safety Entities**

### **1.10.1. Public Safety Entities Defined in the Act**

Public safety entities are generally understood to be the providers of protection of life and property in the United States. This term is important, as it defines what entities are authorized to operate on the NPSBN. A definition of “public safety entity” is contained in Public Law 112-96, “the Act” that created FirstNet, and refers to two other Federal laws.

The term “public safety entity” means an entity that provides public safety services. The term “public safety services” (A) has the meaning given the term in section 337(f) of the Communications Act of 1934 (47 U.S.C. 337(f)); and (B) includes services provided by emergency response providers, as that term is defined in section 2 of the Homeland Security Act of 2002 (6 U.S.C. 101).

The Communications Act of 1934, as amended, Title 47 U.S.C. 337 (f) of the United States Code defines “public safety services” as:

- (A) the sole or principal purpose of which is to protect the safety of life, health, or property;
- (B) that are provided (i) by State or local government entities; or (ii) by nongovernmental organizations that are authorized by a governmental entity whose primary mission is the provision of such services; and
- (C) that are not made commercially available to the public by the provider.

The Homeland Security Act of 2002 (6 U.S.C. 101) 6) states the term “emergency response providers” includes Federal, State, and local governmental and nongovernmental emergency public safety, fire, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel, agencies, and authorities.

The Act requires equipment used on the NPSBN to be “...(ii) capable of being used by any public safety entity and by multiple vendors across all public safety broadband networks operating in the 700 MHz band.”

### **1.10.2. Arizona Interpretation of Public Safety Entities**

Arizona has conducted a survey of the public safety entities that serve the State, including tribal nations. In interpreting the term “public safety entities,” the State has reviewed Arizona statutes and some federal agency definitions of public safety entities and public safety personnel.

Law enforcement agencies are defined by the U.S. Department of Justice, Bureau of Justice Statistics.

*The generic name for the activities of the agencies responsible for maintaining public order and enforcing the law, particularly the activities of prevention, detection, and investigation of crime and the apprehension of criminals.<sup>1</sup>*

Law enforcement agencies in Arizona employ peace officers and civilian personnel who are engaged in the enforcement of laws, ordinances, and regulations.

Peace officers are defined by Arizona Revised Statutes Section 1-215.

*“Peace officers” means sheriffs of counties, constables, marshals, policemen of cities and towns, commissioned personnel of the department of public safety, personnel who are employed by the state department of corrections and the department of juvenile corrections and who have received a certificate from the Arizona peace officer standards and training board, peace officers who are appointed by a multicounty water conservation district and who have received a certificate from the Arizona peace officer standards and training board, police officers who are appointed by community college district governing boards and who have received a certificate from the Arizona peace officer standards and training board, police officers who are appointed by the Arizona board of regents and who have received a certificate from the Arizona peace officer standards and training board, police officers who are appointed by the governing body of a public airport pursuant to section 28-8426 and who have received a certificate from the Arizona peace officer standards and training board and special agents from the office of the attorney general, or of a county attorney, and who have received a certificate from the Arizona peace officer standards and training board.<sup>2</sup>*

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<sup>1</sup> <http://www.bjs.gov/index.cfm?ty=tp&tid=7>

<sup>2</sup> <http://www.azleg.state.az.us/ars/1/00215.htm>

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Firefighters are considered to be paid sworn, reserve, and volunteer personnel that provide services deemed necessary for “fire protection, for preservation of life and for carrying out other powers and duties...”<sup>3</sup>

Emergency Medical Services are regulated by Arizona Revised Statutes, Title 36 – Public Health and Safety, Chapter 21.1 – Emergency Medical Services. Article 1, 36-2201<sup>4</sup>, provides the numerous definitions.

Emergency Management in Arizona is coordinated by the Division of Emergency Management under the authority of Arizona Revised Statutes, Title 26 – Emergency and Military Affairs<sup>5</sup>, Chapter 2 – Emergency Management, and the Arizona Administrative Code, Title 8 – Emergency and Military Affairs<sup>6</sup>. “The Division of Emergency Management coordinates the State of Arizona’s emergency preparedness, response and recovery efforts in order to reduce the impact of emergencies and disaster on people and property in the Whole Community.”<sup>7</sup> Staff of the three sections that comprise the Division “...work in support of the DEMA mission to provide emergency management capabilities to the citizens of Arizona and the Nation.”<sup>8</sup>

Within Arizona’s 15 counties, the sheriff is responsible for coordination of search and rescue (SAR) missions. Each sheriff shares resources throughout the state. The Arizona Search and Rescue Coordinators Association, a 501C(3) charitable organization, was formed to support the sheriffs in their mandated duties by developing training, search techniques, and standardization for SAR volunteers. Volunteers participate in operations that often involve other states, organizations such as the Civil Air Patrol, and the United States Rescue Coordination Center.

Public safety entities include those entities with responsibilities defined in the disaster and emergency operations plans of the State; examples include the following:

- Arizona Department of Transportation – clearing snow, landslides, bridge issues, travelers’ information and warnings
- Arizona Department of Health – infectious diseases, other public health emergencies
- Not-for-profit and faith-based disaster relief agencies – American Red Cross, Salvation Army, etc.
- Transit authorities – evacuation of the public from hazards
- School transportation – coordination of evacuations
- Schools – security monitoring, emergency response, shelter operations
- Utilities – gas, water, electric for emergency response, mitigation, and restoration
- Special authorities and districts – dams and flood control
- Parks – security, coordination of emergency response

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<sup>3</sup> <http://www.azleg.gov/ars/48/00805.htm>

<sup>4</sup> <http://azleg.gov/FormatDocument.asp?inDoc=/ars/36/02201.htm&Title=36&DocType=ARS>

<sup>5</sup> <http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=26>

<sup>6</sup> <http://www.azsos.gov/rules/arizona-administrative-code>

<sup>7</sup> <https://dema.az.gov/emergency-management>

<sup>8</sup> Ibid.

Public safety entities in Arizona must also interoperate with personnel other states and Federal agencies, with cross-border or in-Arizona response duties.

The State intends to create and maintain a system that will review and approve applications for access to the APSBN. In general, the State will encourage participation by bona fide public safety entities on the PSBN to increase interoperability and to provide access to public safety information sources and applications.

### **1.10.3. Funding and Funding Contingencies**

No funds for this project have been appropriated for this project by the Arizona Legislature.

Proposers are advised that no contract will be entered into by the State unless 1) the State opts-out of the FirstNet offer; 2) a plan for design, deployment, and operation of a State RAN is approved by the FCC; 3) the Arizona Legislature appropriates sufficient funding for State expenditures related to the APSBN; and 4) grant funding is approved for Arizona by the NTIA, when matched by investment or State funds, which is sufficient to construct the RAN that meets the State's objectives.

### **1.11. Spectrum Manager Lease Agreement**

If Arizona chooses to opt-out and construct a RAN, it is assumed that the State will enter into a spectrum manager lease agreement with FirstNet. The terms and conditions of such a spectrum lease are unknown at this time and may produce constraints in the deployment of a RAN for Arizona public safety entities.

## **2. Instructions to Proposers**

### **2.1. Schedule of Events**

If the State elects to opt-out, the State intends to comply with the following schedule, which may be changed in the State's sole discretion.

**Table 1: Schedule of Events**

<b>Event</b>	<b>Date and Time</b>
Solicitation Issued	September 28, 2016
Pre-Proposal Conference	October 20, 2016
Written Questions Due	November 21, 2016 3:00 p.m. Mountain Standard Time
Qualification Package Appendix D Due	November 30, 2016 3:00 p.m. Mountain Standard Time
Proposal Due	November 30, 2016 at 3:00 p.m. Mountain Standard Time
Evaluation of Proposals	December 1, 2016 through January 31, 2017

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Event	Date and Time
Notice of Intent to Award	March 31, 2017

## 2.2. Pre-Proposal Conference and Questions

A pre-proposal conference was held on October 20, 2016, at 9:00 a.m. Mountain Standard, in Phoenix.

Proposers may submit questions to the State in either written or electronic format (email). The State will provide answers to any questions received. Oral responses shall not be binding on the State.

. The deadline for all questions is November 21, 2016, at 3:00 p.m. Mountain Standard.

The contact for submission of technical questions is:

### **Reem Prendiville**

State Procurement Manager | IT Products and Services  
ADOA – State Procurement Office | State of Arizona  
100 North 15th Avenue, Suite 201, Phoenix, AZ 85007  
p: (602)542-9155 | [reem.prendiville@azdoa.gov](mailto:reem.prendiville@azdoa.gov)

Following the conference, all attendees shall be provided with a copy of the sign-in sheet, questions, and responses.

## 2.3. Proposal Submission

Proposers shall submit proposals by 3:00 p.m. Mountain Standard on November 30, 2016.

Proposals shall be submitted via the ProcureAZ e-procurement system. The link to ProcureAZ is: <https://procure.az.gov>

There is a help desk dedicated to assisting vendors use ProcureAZ and submit their proposals as below:

For assistance contact the ProcureAZ Help Desk at 602-542-7600 or email [procure@azdoa.gov](mailto:procure@azdoa.gov) Monday through Friday from 7:00am to 5:00pm MST.

## 2.4. Proposal Format

Proposers shall adhere to the proposal format provided below, organized by section.

1. Section 1: Cover letter
2. Section 2: Table of contents

3. Section 3: Executive summary
4. Section 4: Technical description of the solution, including equipment, software, design, and services to be provided, including, as applicable:
  - a. Radio frequency (RF) communications system, including RF coverage predictions
  - b. Backhaul connectivity
  - c. System management systems
  - d. System event-monitoring systems
  - e. Additional subsystems
  - f. System design information, including a complete detailed description, block diagrams and network diagrams necessary to provide a complete and comprehensive description
5. Section 5: Preliminary project schedule with detailed Gantt chart
6. Section 6: Additional information not covered in other sections
7. Section 7: Financial Model

## **2.5. Evaluation**

The State along with an evaluation committee shall evaluate proposals based on numerous criteria, including:

- RFP compliance
- Proposer experience
- Financial Model
- Capability, features and functionality
- Warranty, maintenance and support
- Demonstrated ability to perform the services described
- Quality of work as verified by references
- Willingness to accept the State's contract terms
- Approach to implementing the project on a phased timeline
- Any other factors the evaluation committee deems relevant

## **2.6. Addenda to the Contract**

During the proposal period, the State may issue written addenda in order to change or correct the requirements as issued. Such changes or corrections shall be included in the work and/or materials

covered by the proposal, and such addenda shall become part of the requirements and any resulting contract, should the State elect to opt-out.

## **2.7. Reservation of Rights**

The State reserves the right to accept or reject any and all proposals for any or no reason.

If the State elects to opt-out of the NPSBN, it retains the right to negotiate and waive any informalities or irregularities contained in proposals, and to award this contract, in whole or in part, in the best interest of the State.

The State reserves the right to negotiate and accept all or part of any proposal, depending solely upon the requirements and needs of the State.

The State reserves the right to seek clarifications regarding any proposal submitted, or specific aspects of any proposal prior to contract award, if the State elects to opt-out. After seeking such clarifications, the State shall allow the proposer an opportunity to provide the requested clarification.

The State may request an interview with and/or oral presentation from any entities that submit a proposal. These meetings provide opportunity for the State to ask questions and for the proposer to clarify its proposal or demonstrate its product/solution. The State will schedule these interviews and presentations, in its sole discretion.

The State may simultaneously negotiate with multiple qualified proposers to select the Partner that best fits the needs of Arizona public safety entities.

If the State elects to opt-out, the State reserves the right to negotiate the configuration of the APSBN with the selected proposer to best meet the needs of its public safety entities.

## **3. System Requirements**

### **3.1. Scope and Objectives**

In its RFP, FirstNet seeks,

*...a comprehensive network solution covering each of the 56 states and territories. The comprehensive network solution shall provide FirstNet services that include: the deployment and provisioning of a nationwide Core Network (“Core”), and Radio Access Network (RAN) services; backhaul, aggregation, and the use of national transport networks and operation centers; a device ecosystem; use of network infrastructure; deployable capabilities; use of operational and business support systems; an applications ecosystem; network services; and the integration, maintenance, operational services, and ongoing evolution of these systems*

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*required to function fully as an operational wireless 3rd Generation Partnership Project (3GPP) standards-based Long Term Evolution (LTE) NPSBN.*

Arizona is seeking alternatives to the FirstNet Plan that will be submitted to each state and territory for the purpose of evaluating options and to select the best path forward to make available to public safety entities a wireless broadband network that satisfies operational needs for at least the next 25 years.

Objectives established for the APSBN parallel those established by FirstNet for the NPSBN. The Partner will be largely responsible for meeting the 16 objectives, as tailored for Arizona. The State shares these objectives in order to develop a RAN that will be fully compliant with the objectives of FirstNet and which will provide seamless interoperability now and in the future with the NPSBN.

In responding to the Arizona RFP, proposers should address the 16 objectives<sup>9</sup> below, as adapted to an opt-out decision.

### **3.1.1. Building, Deployment, Operation, and Maintenance of the NPSBN**

*Provide nationwide interoperable public safety broadband network service that ensures network coverage 24 hours a day, 7 days a week, 365 days a year and complies with the technical requirements...throughout the RFP and its attachments.*

Alignment with this objective provides for RAN deployment within Arizona for interoperable PSBN service that ensures network coverage 24 hours a day, 7 days a week, 365 days a year and complies with the technical requirements of the FirstNet NPSBN, including future upgrades to the nationwide network as 3GPP standards revisions are adopted by FirstNet.

Arizona requests that proposers describe the method by which the RAN would be designed based upon the needs of the state's public safety entities. It is contemplated that the Partner will manage the design, construction, deployment, and optimization of the RAN with inspection and approval by the State. Operation of the APSBN will be required, including provision of functions such as customer service, sales and service of user equipment, network monitoring, routine and emergency maintenance, and operation and maintenance of the backhaul facilities. The Partner will work with the State regarding validation of public safety entities and personnel for access to the APSBN.

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<sup>9</sup> The objectives were taken directly from the FirstNet RFP. The link to the solicitation and referenced documents can be found at:  
[https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=7806696f4340f16474647ccc57805040&\\_cvi=0](https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=7806696f4340f16474647ccc57805040&_cvi=0)



### 3.1.2. Financial Sustainability

*Maximize the impact of government funding and leverage all 20 MHz of Band 14 to build, deploy, operate, and maintain the NPSBN to serve public safety and for secondary use while ensuring a self-sustaining business model...*

The APSBN will need to be financially self-sustaining for the anticipated lifespan of the network. Proposers shall provide a financial model for the network that anticipates:

- Use of grant funds to finance some portion of the deployment of the RAN
- A method of producing the 20 percent required match for the grant
- Sale of excess capacity on the leased Band 14 spectrum within the state of Arizona within the constraints of the spectrum manager lease agreement
- Sharing in some portion of the user fees to be paid by public safety entities for access to the network, within the constraints of the spectrum manager lease agreement
- Operating capital that will be needed to bridge the gaps between payment milestones

Reference section 6, Financial Model, of this RFP for further details.

### 3.1.3. First Responder User Adoption

*Establish (i) compelling, differentiated, and competitively priced service packages and (ii) sales, distribution, and marketing capabilities to ensure adoption of FirstNet products and services by a majority of eligible PSEs<sup>10</sup> within four years of award...NPSBN services, at a minimum, shall include data, voice services, messaging, machine-to-machine, virtual private network (VPN), video, unique public safety mission-critical services, and location services.*

Arizona has provided information gathered from existing users of broadband services in this RFP. Also included is a gross number of public safety personnel. Other potential users of the network, including agencies that are providers of certain public safety services under emergency conditions are not contained in these estimates.

### 3.1.4. Device Ecosystem

*Provide and maintain a 3GPP-compliant, Band-14-capable device portfolio that evolves with the 3GPP standards and provides functionality and price points that meet the needs of the FirstNet public safety customer base and drive substantial subscribership. FirstNet anticipates NPSBN public safety customers will expect mass market as well as ruggedized devices that are capable of gloved, one-handed, or hands-free operation as well as those capable of multimedia and high-definition data transmission both from*

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<sup>10</sup> Public safety entities

*humans and machine-based sensors. The ecosystem shall support Bring Your Own Device (BYOD) as well as, at a minimum, devices that:*

- *Operate seamlessly on the NPSBN and roam onto networks, including non-Band 14 commercially available networks*
- *Interoperate with FirstNet's applications ecosystem*
- *Support associated Universal Integrated Circuit Card (UICC) features and options, including the ability to home and, if applicable, roam on to multiple networks while prioritizing them appropriately*
- *Support software containers to isolate FirstNet applications*
- *Operate seamlessly with a comprehensive device management system to allow remote provisioning and control*

At the Federal level, the FirstNet RFP required the selected contractor to establish a device ecosystem to provide a variety of compatible devices to public safety entity users of the NPSBN. Proposers responding to this RFP shall explain how they would access this ecosystem, or how a separate ecosystem tailored to the needs of Arizona would be established.

As the PSBN evolves, the network shall maintain backwards compatibility with user devices.

### **3.1.5. Applications Ecosystem**

*Provide an applications ecosystem that supports the NPSBN with capabilities and services relevant to public safety. The ecosystem shall include, at a minimum:*

- *An evolving portfolio of mobile and enterprise applications, as well as cloud services*
- *An applications development platform*
- *A vibrant third-party applications developer community*
- *An applications store*
- *Local control of users, subscriptions, services, and applications*
- *User friendly federation of identity management*
- *Data, application, and resource sharing across diverse PSEs*
- *Core service and application delivery platforms*
- *Data and applications security and privacy compliance across local, tribal, state, regional, and federal users...*

At the Federal level, the FirstNet RFP required the selected contractor to establish an Applications Ecosystem to provide public safety entities a source of applications compatible with the NPSBN. It is understood by Arizona that many applications used by public safety entities are customized to the needs of specific operating parameters that are unique from location to location. In response to the Arizona RFP, proposers shall provide information on how they would access the FirstNet applications ecosystem, or how such products, either custom or off-the-shelf would be provided.

### 3.1.6. Accelerated Speed to Market

*Achieve operational capabilities in accordance with the schedule and feature sets denoted in Section J, Attachment J-8, IOC/FOC Target Timeline, which may include an initial provision for operating the NPSBN using existing wireless services (similar to that of a mobile virtual network operator [MVNO]), Band 14 capabilities, significant subscribership to the NPSBN, and substantial rural coverage milestones in accordance with the IOC/FOC milestones.*

In its RFP Section J, Attachment J-8, FirstNet established an Initial Operational Capability (IOC) timeline that is correlated with the 3<sup>rd</sup> Generation Partnership Project (3GPP) standard body release timeline; the milestones of the corresponding NPSBN deployment referenced in the RFP. Persistent coverage that satisfies the coverage requirements of the RFP are used in establishing IOC milestones and Final Operational Capability (FOC) milestones.<sup>11</sup> Temporary coverage provided by deployable radio base station systems may be used to complement persistent coverage, but does not count in satisfaction of IOC/FOC coverage deployment percentage goals.

For the purposes of this RFP, it is the intent of the State to comply with the IOC/FOC goals of FirstNet to the extent practical (subject to a decision to opt-out, approval of the Arizona plan by the FCC, and award of a grant by NTIA, events which may create a delay when compared to the FirstNet projected dates of completion of milestones).

FirstNet in its RFP J-8, Table 1 sets milestones for IOC-1 that will be completed six months after award to a contractor. The coverage and capacity solution is nationwide coverage on Band 14 or non-Band 14 spectrum. Achievement of this milestone is largely dependent on the availability of devices, applications, and services that will be compatible with an existing commercial wireless network that provides LTE service.

Arizona intends to meet the goal of IOC-1 in a similar manner, provided that the network offered by the Partner will operate using a compatible LTE network configuration at 3GPP Release 12. Compatible, as used in this paragraph means compatible with the 3GPP LTE release that will be used on the initial deployment of FirstNet and the APSBN.

### 3.1.7. User Service Availability

*Provide a broadband service with availability of 99.99% as measured in a rolling 12-month window within each reporting area. Offerors should consider areas that contain mission-critical infrastructure as needing enhanced hardening and increased availability. Service restoration activities shall be undertaken with the highest available priority but shall not exceed two hours for any impaired service. For restoration of service via*

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<sup>11</sup> <https://www.fbo.gov/utills/view?id=bc4a63534ebd1fd64cd01ff070f25603>

*temporary or secondary service capabilities, the temporary or secondary service must be transparent to the users and provide similar capability.*

Arizona will comply with the user service availability objective of 99.99 percent. Proposers shall describe the methods that will be used to achieve this objective.

### **3.1.8. Service Capacity**

*Provide service capacity to support geographically dispersed public safety usage (in accordance with FCC TAB RMTR 4.4.6.5, Capacity) throughout the life of the contract. ...Coverage and Capacity Definitions, includes a map noting first responder density and current mobile data usage. This will serve as a baseline for public safety data demand, and mobile data demand is expected to increase throughout the life of the contract.*

Arizona will comply with the service capacity<sup>12</sup>. Section 3.3, User Survey Results, of this RFP and Department of Homeland Security (DHS), Office of Emergency Communications (OEC), workshop information (furnished after NDA execution), contain various maps and charts concerning user density, mobile data usage, and desired usage. Proposers shall describe how the APSBN will provide the capacity needed to accommodate the mix of traffic described in the user survey results.

### **3.1.9. Cybersecurity**

*Provide cybersecurity solutions using the extensive set of industry standards and best practices contained in the International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) security guidance for networks (ISO/IEC 27033, ISO/IEC 17099, and ISO/IEC 27002), FCC TAB RMTR, and 3GPP specifications (TS23.401, TS33.102, TS33.210, TS33.310, TS33.401, and TS33.402). Provide encryption capabilities to support federal, state, and local public safety users. Protective measures will need to be applied end to end across the FirstNet enterprise environment and will include securing user equipment (UE), applications running on UE, and the RAN...Additionally, considerations to support Identity, Credential, and Access Management in a user friendly, secure, federated fashion will be key to any successful cybersecurity solution (details can be found in FirstNet nationwide RFP, Section J, Attachment J-10, Cybersecurity).*

Proposers shall comply with the FirstNet cybersecurity requirements. Alignment with this objective means protective measures shall be applied end to end across the APSBN environment and shall include securing UE, applications running on UE, and the RAN.

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<sup>12</sup> Service capacity refers to FirstNet RFP Section J-3 "Recommended Minimum Technical Requirements to Ensure Nationwide Interoperability for the Nationwide Public Safety Broadband Network" prepared by the Technical Advisory Board for First Responder Interoperability May 22, 2012.

### **3.1.10. Priority Services**

*Provide a solution that allows the assignment of quality of service, priority, and preemption (QPP) parameters to user profiles using the standard service control parameters defined by 3GPP and the Internet Engineering Task Force, including Access Class, Quality Class Indicator (QCI), Allocation and Retention Priority (ARP), and Differentiated Service (Diff Serve). Allow control and management of static and dynamic assigned QPP parameters for public safety users and the ability to change user profiles in real time in response to incidents. User profile assignments and changes should be managed locally by PSEs.*

Proposers shall comply with these requirements to provide full compatibility with the NPSBN. Control of user profile assignments and changes shall be under the local control of public safety entities.

### **3.1.11. Integration of State-Deployed RANs**

*Integrate the NPSBN across state and territory deployed RANs so that users operate without service interruptions, including when crossing RAN service area boundaries...*

The Partner will be responsible for interface of the APSBN with the NPSBN in accordance with the FirstNet RFP, Section J, Attachment J-4. Partner will be responsible for maintaining compatibility of this interface as the NPSBN evolves in the future.

### **3.1.12. Integration of Existing Commercial/Federal/State/Tribal/Local Infrastructure to Support NPSBN Services**

*Integrate existing assets— where economically desirable in accordance with Section 6206 of the Act and as further interpreted in FirstNet's request for public comments — with an emphasis on assets owned and operated by rural telecommunications providers.*

Integration and use (to the extent practical) of existing commercial, federal, state, tribal and local public safety communications systems and assets into the APSBN is a desired outcome of a PPP for the provision of the APSBN. Integration may include interface of push-to-talk operation through gateways, dual-mode devices, or other means to permit participating public safety entities a means to interoperate with the APSBN. Assets may include antenna sites, rooftops, backhaul facilities, emergency operations centers, network operations centers (NOCs), or other systems, applications, or property that may be available from participating public entities. Proposers shall describe how they intend to pursue and accomplish this objective.

### **3.1.13. Life-Cycle Innovation**

*Evolve the NPSBN solution—including products and services—and incorporate 3GPP LTE standards as they evolve and mature throughout the life of the contract, in*

*accordance with the FCC TAB RMTR, the Act, including in particular Section 6206(c)(4), and the attachments in Section J.*

Proposers should specify how their offer complies with this objective.

### **3.1.14. Program and Business Management**

*Provide program management for the NPSBN in accordance with the Project Management Institute or other applicable industry standards, Information Technology Infrastructure Library (ITIL®) or equivalent, and Government Accountability Office cost guidelines.*

Proposers shall provide documentation on their approach to project management, financial controls, and reporting in alignment with this objective and to any grant(s) that may be provided by NTIA.

### **3.1.15. Customer Care and Marketing**

*Market NPSBN products and services to public safety users in all states, territories, and tribal lands. Provide highly responsive and quality customer acquisition, service, and customer care. Support development and refinement of state plans, in consultation with FirstNet, and an online tool for their delivery. Provide life-cycle service and support to all users.*

Arizona seeks a Partner that will operate essentially as an MVNO. Public safety entities will be customers on the APSBN and will require some of the same services that consumer wireless customers would expect. Proposers shall describe what services will be provided in support of users and public safety entities in daily operations, such as account management, operational help desk, and other functions.

A source of funds for the sustainment of the APSBN will be the monetization of the excess capacity on the Band 14 spectrum. The Partner will be responsible for sales and marketing activities to end users on legacy networks to gain access to the excess spectrum.

The Partner will also provide assistance to the State in marketing to public safety entities access to the APSBN that will result in user fees to fund the operation and maintenance of the RAN.

### **3.1.16. Facilitation of FirstNet's Compliance with the Act and Other Laws**

*Perform all objectives and provide information and services in a manner that facilitates FirstNet's compliance with its statutory requirements under the Act and all other applicable laws.*

Under a spectrum manager lease agreement with FirstNet, the State is likely to be required to assist FirstNet in compliance with the terms of the Act and other laws as they apply to the APSBN and its connection to the NPSBN. Proposers shall describe the steps they would take to assist the State in this responsibility if selected as the Partner.

### **3.2. Statewide RAN**

A RAN is the portion of the NPSBN that a State may choose to provide. A RAN consists of radio base stations (ENodeB), antenna systems, and a network that connects individual cell sites to the larger network (backhaul), and network interfaces required for the State and NPSBN.

The FirstNet RFP does not constrain potential partnerships, joint ventures, or teams that may form for the purpose of submission of a proposal to FirstNet. Consistent with this position, if Arizona opts-out, it will seek a partner to design, deploy, operate, and manage the RAN.

#### **3.2.1. Backhaul – State Microwave System Assets**

Proposers should provide the method of backhaul proposed from cell sites, whether microwave, fiber optic network, or other means. The State encourages the use of existing state- or local government-owned facilities where practical and teaming with existing providers of broadband services that can meet a committed information rate required for public safety communications. The State also encourages development of new broadband services for backhaul that may also be expanded in functionality to improve broadband services to underserved areas.

Arizona is interested in the potential for sharing a backhaul broadband network that will support a statewide Emergency Services Internet Protocol (IP) network (ESInet) for Next Generation 9-1-1 (NG9-1-1) as an adjunct to deployment of a PSBN RAN. Proposers should address the feasibility of such a network that would provide connectivity between public safety answering points (PSAPs) in Arizona and the APSBN for applications, and the addition of a separate fiber-based network for connectivity of the PSAPs with one another and with inputs from wireless and wireline networks.

#### **3.2.2. State Microwave System North Loop**

Arizona presently owns and operates a statewide microwave backbone network for its radio network and for other applications. Most of the paths in the area from Phoenix south, east, and west have been upgraded to digital operation. A section of the microwave network known as the North Loop extends roughly north east from Phoenix and will be extended to the extreme northwest area of the state (north of the Grand Canyon). This network is available for development by the partner selected by the State for the purpose of providing backhaul service to some of the ENodeB sites in addition to serving land mobile radio and other applications.

The existing network has segments of analog microwave, and some paths are quite long (>100 km), The State has developed a preliminary plan in which a total of 15 paths are used in the loop

configuration and 11 spur paths are employed. This plan may be modified to break up long paths, and to provide backhaul along segments of Interstate Highways 40 and 17 as well as some other thoroughfares.

The North Loop overbuild preliminary plan requires improvements to 23 sites and “greenfield” construction of three new sites. Some of these sites are located on Tribal lands which are sovereign nations. Site improvements may be extensive, including tower replacement, and shelter replacement or renovation. Many of the sites in the North Loop are at high elevations and are used as part of the existing state voice radio system. Many of these sites may be useful for co-location of EnodeB installations to provide rural coverage.

Information on this proposed network will only be available pursuant to a Non-Disclosure Agreement between the State and the Proposer.

Spur connections from the backbone network to interface with fiber in populated areas should be considered in the proposal.

Microwave path reliability shall be a minimum of 99.999. System reliability shall be as defined in Section 4.1 of this RFP. Antenna sites, power supplies, towers, and shelter proposed should comply with Federal and State laws, relevant sections of the IBC, NFPA-1221, TIA-222-G, state and national energy, historical preservation and environmental regulations and laws, FAA regulations, and FCC regulations, Sites located on Tribal lands must comply with and be approved by the relevant authorities in compliance with law.

### **3.2.3. Roaming Requirements**

The State assumes that in the initial configuration of the RAN the Partner will provide roaming service on a compatible LTE network that will provide coverage and capacity on an interim basis until the APSBN is deployed to an extent to provide reliable service in defined areas of Arizona. It is a critical requirement that the Partner will be ready within the first six months after award of contract to provide roaming coverage on a network that it controls or on which it is authorized to act as an agent. Proposers shall describe how they intend to meet this requirement.

### **3.2.4. Interfaces to FirstNet**

Proposers shall specify the manner in which the APSBN would be connected to the NPSBN in accordance with the design requirements of FirstNet. Connection shall provide for routing diversity to meet the network availability goal of FirstNet and to eliminate single points of failure. Interoperability shall comply with the [Recommended Minimum Technical Requirements to Ensure Nationwide Interoperability for the Nationwide Public Safety Broadband Network](#).



Interfaces to FirstNet shall be in accordance with the FirstNet RFP, Section J, Attachment J-4. The Partner for the APSBN shall maintain interfaces in accordance and full compatibility with the future evolution of such connectivity by the NPSBN.

### **3.2.5. Autonomous Operation**

Interfaces to the NPSBN shall be configured in such a manner that the APSBN will remain operational for, at a minimum, intrastate operation in the event of failure of the FirstNet interconnecting network or its network components including network core functionality. Redundancy in connections to FirstNet shall be provided in a manner to eliminate single points of failure. Applications connected to the network at the state and local government levels in Arizona shall not be interrupted as a result of a failure in the FirstNet operated infrastructure.

Mobile and handheld devices associated with the APSBN shall remain functional within the coverage area of the APSBN in the event of FirstNet interconnecting network failure, or other network components failure, including the core. Access to local or state applications, databases, and communications capabilities (such as peer to peer communications) shall remain functional during FirstNet failures.

### **3.2.6. Interfaces to Criminal Justice Information Systems**

Proposers shall coordinate with providers of local, state, and federal criminal justice information systems that will be connected to the APSBN to determine the method of secure interconnection. Interfaces shall meet network security requirements established now or in the future by FirstNet.

Proposers shall describe what type of server connections to the network core will be accommodated, the location of such connections, and the redundancy that will be provided for such connections.

### **3.2.7. User Equipment**

Proposers shall identify the types of user equipment that will be compatible with the APSBN and which will provide full interoperability with the NPSBN.

Proposers shall describe the availability of devices through the Partner organization, as well as the types of purchase or lease options that may be available.

### **3.2.8. Minimum Technical Requirements**

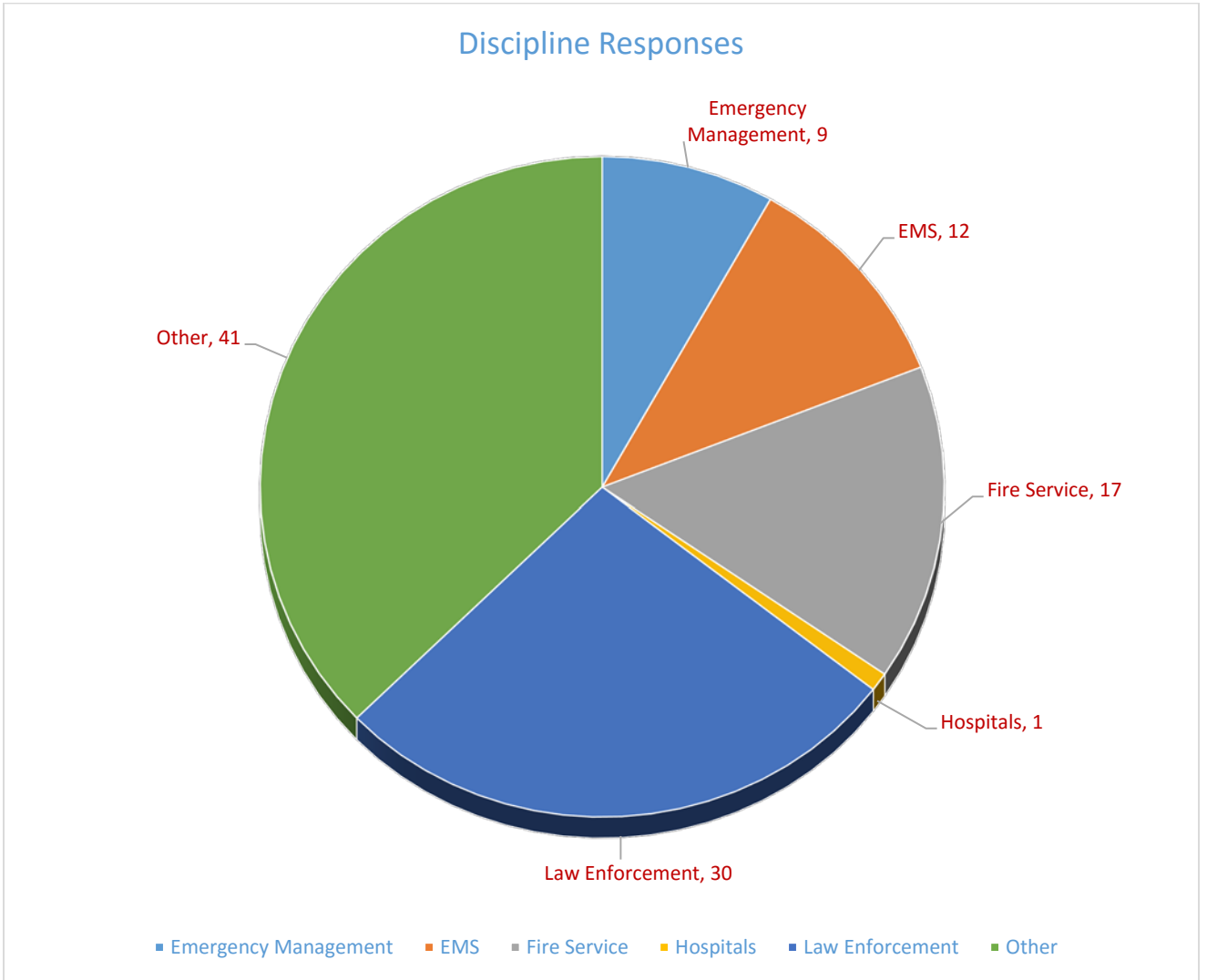
The minimum technical requirements for the APSBN are as established in [Recommended Minimum Technical Requirements to Ensure Nationwide Interoperability for the Nationwide Public Safety Broadband Network](#), and in the FirstNet RFP, Section J, Attachment J-4.

### **3.3. User Survey Results**

The APSBN planning team conducted on-line surveys of public safety agencies within the state to ascertain requirements for the network. A total of 58 agencies responded to the surveys, the results of which are provided below.

Chart 1 reflects the responding agencies by discipline (please note several agencies indicated they represented multiple disciplines).

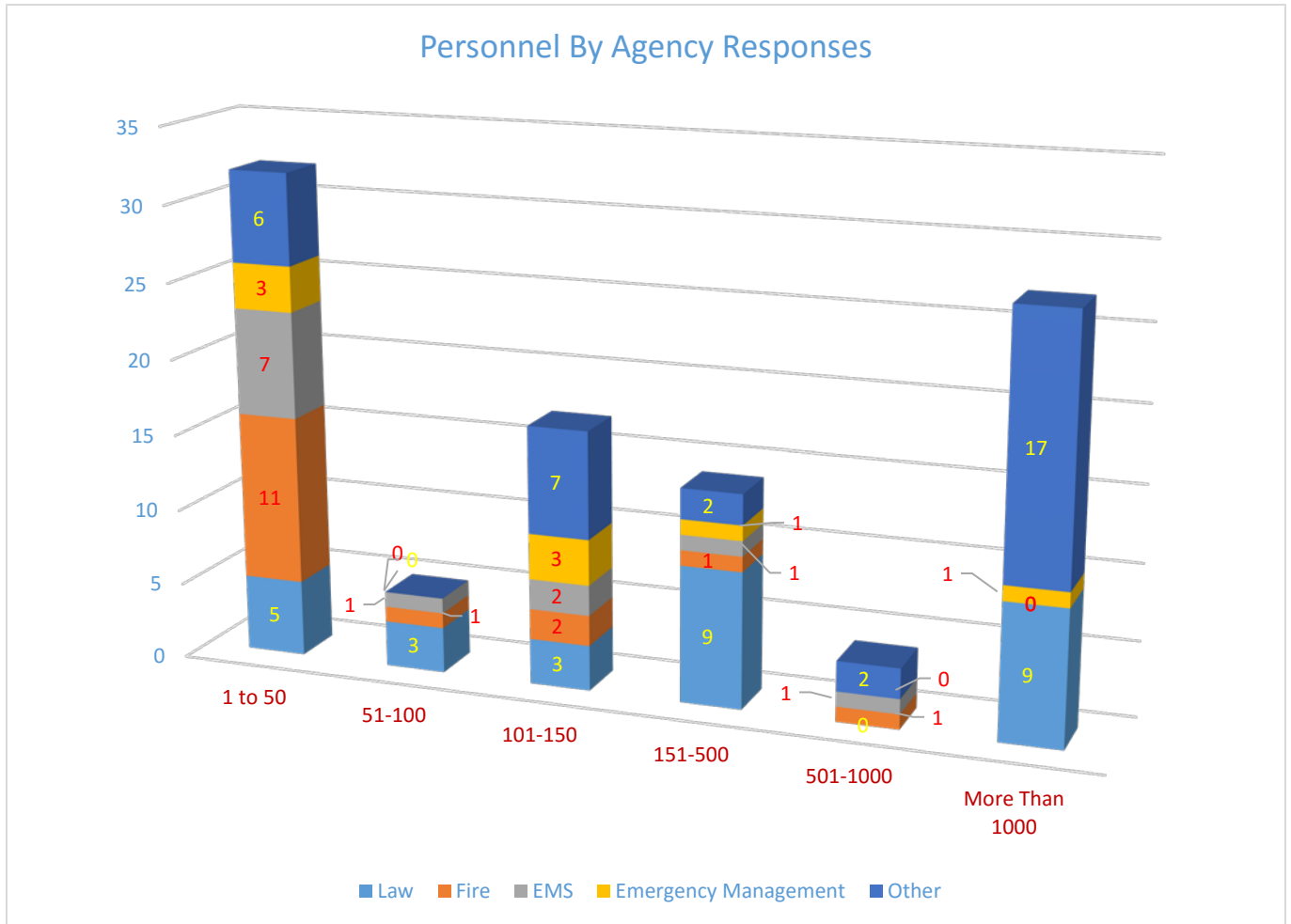
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**Chart 1: Agency Responses by Discipline**

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Chart 2 represents the number of personnel within the responding agencies.



**Chart 2: Personnel Per Responding Agency**

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Chart 3 indicates the number of agency responses.

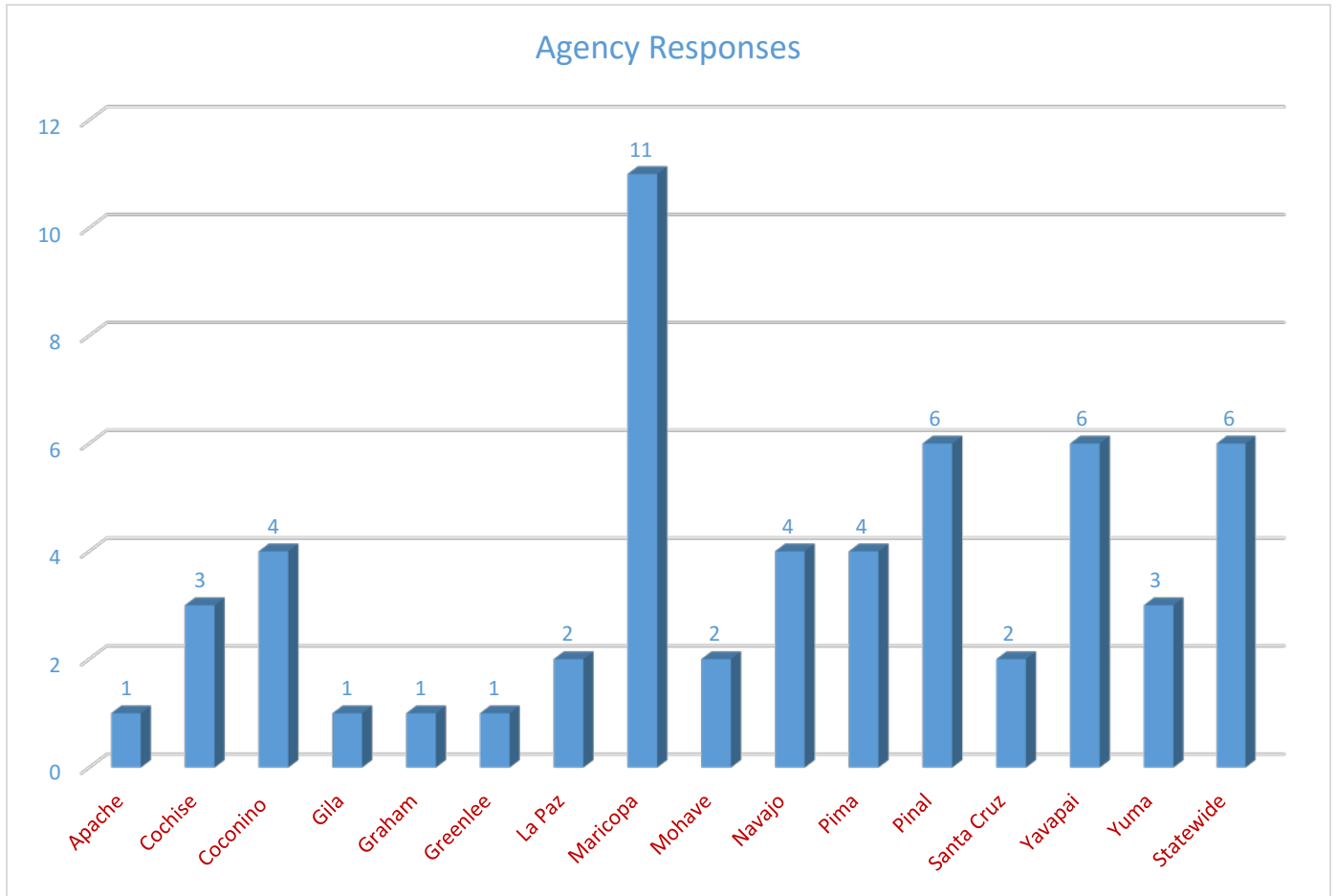
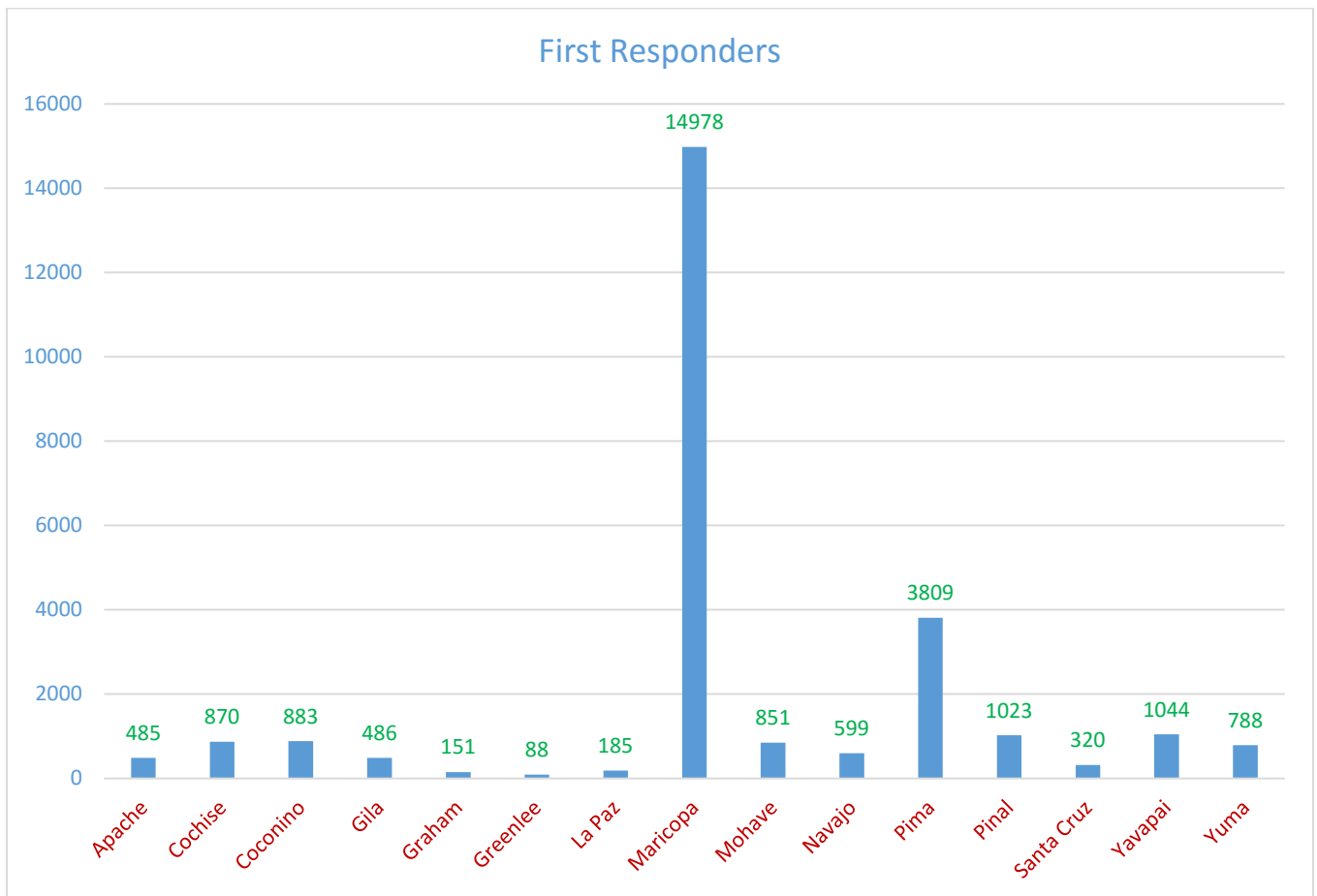


Chart 3: Agency Responses

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Chart 4 represents the number of first responders by county. This information was compiled by DHS, OEC, and was presented to the Arizona Statewide Interoperability Coordinator (SWIC) as part of the Broadband Consultation Prep Workshop conducted in 2013. OEC obtained the information from the following sources: Federal Emergency Management Agency (FEMA) U.S. Fire Administration, U.S. Department of Justice Statistics, Communications Assets Survey and Mapping (CASM) Tool, and the National Public Safety Information Bureau.

The information, as with the state's data collection effort, does not represent the Arizona public safety community in total, but is a representative subset of it. The information in Chart 4 mainly pertains to primary first responders and emergency management personnel, and does not take into consideration the expanded pool of potential APSBN users, as stated previously pertaining to transportation entities, utilities, etc. This information is provided to establish absolute minimum levels from which to create reasonable statistical extrapolations to better reflect actual numbers of users and devices.



**Chart 4: First Responders by County**

Agencies were asked to provide information concerning the number and types of wireless devices they currently have deployed for both land mobile radio (LMR) and commercial cellular.

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Chart 5 represents the number of LMR mobiles and portables currently deployed by the responding agencies. The numbers on the horizontal axis each represent a responding agency.

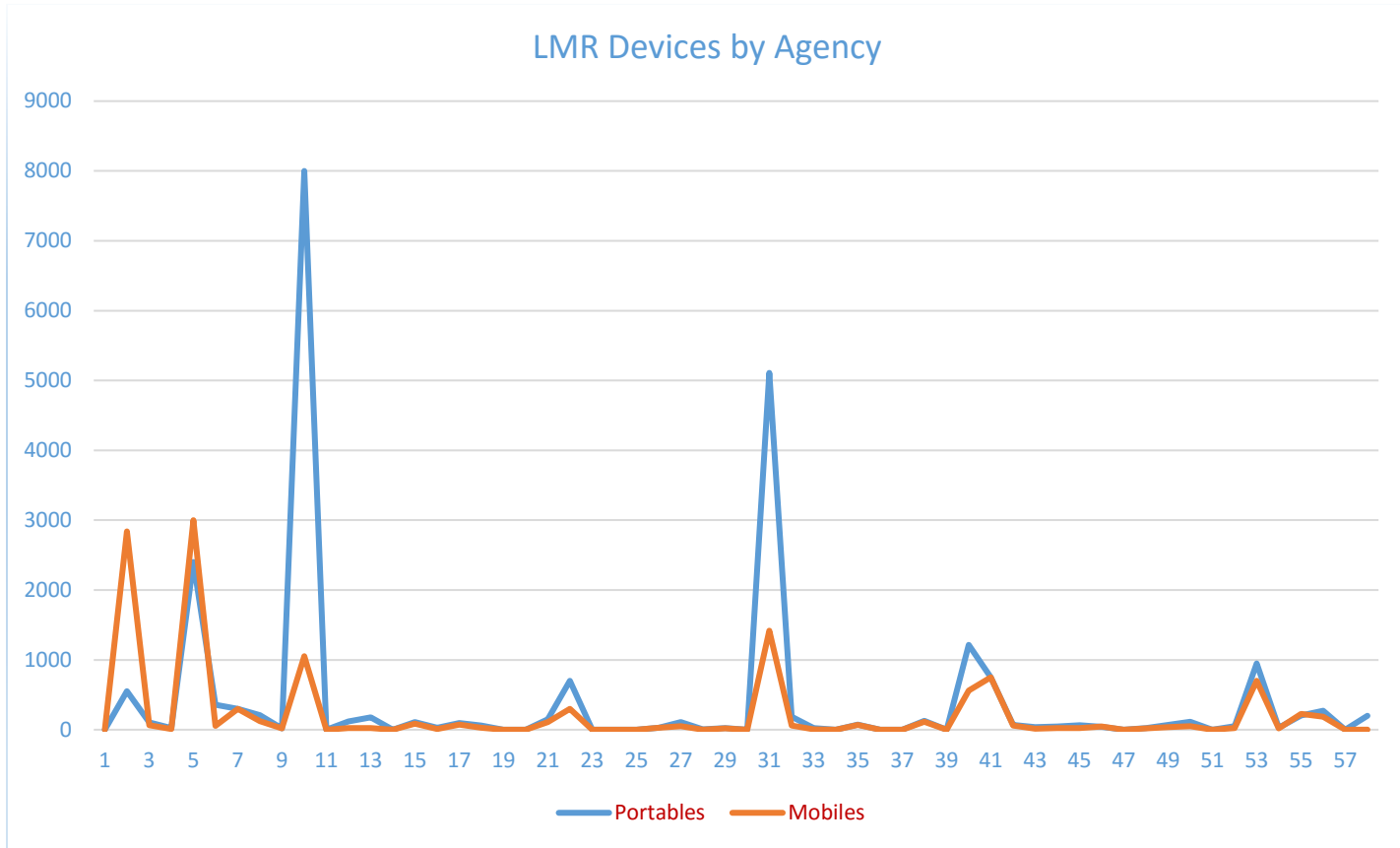


Chart 5: LMR Devices Deployed Per Responding Agency

Charts 6–10 depict the types of devices responding agencies currently have deployed on commercial networks.

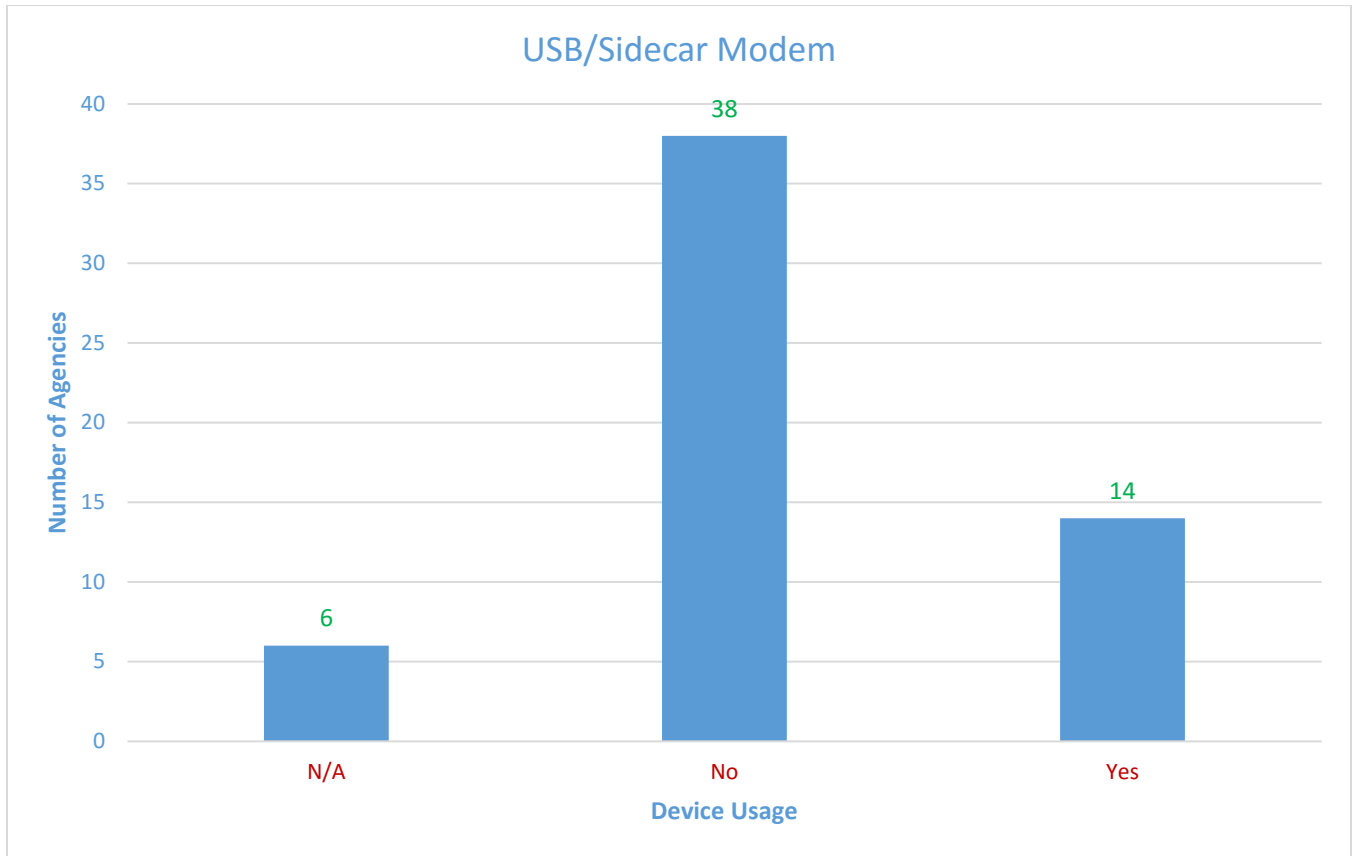


Chart 6: USB/Sidecar Modem Usage



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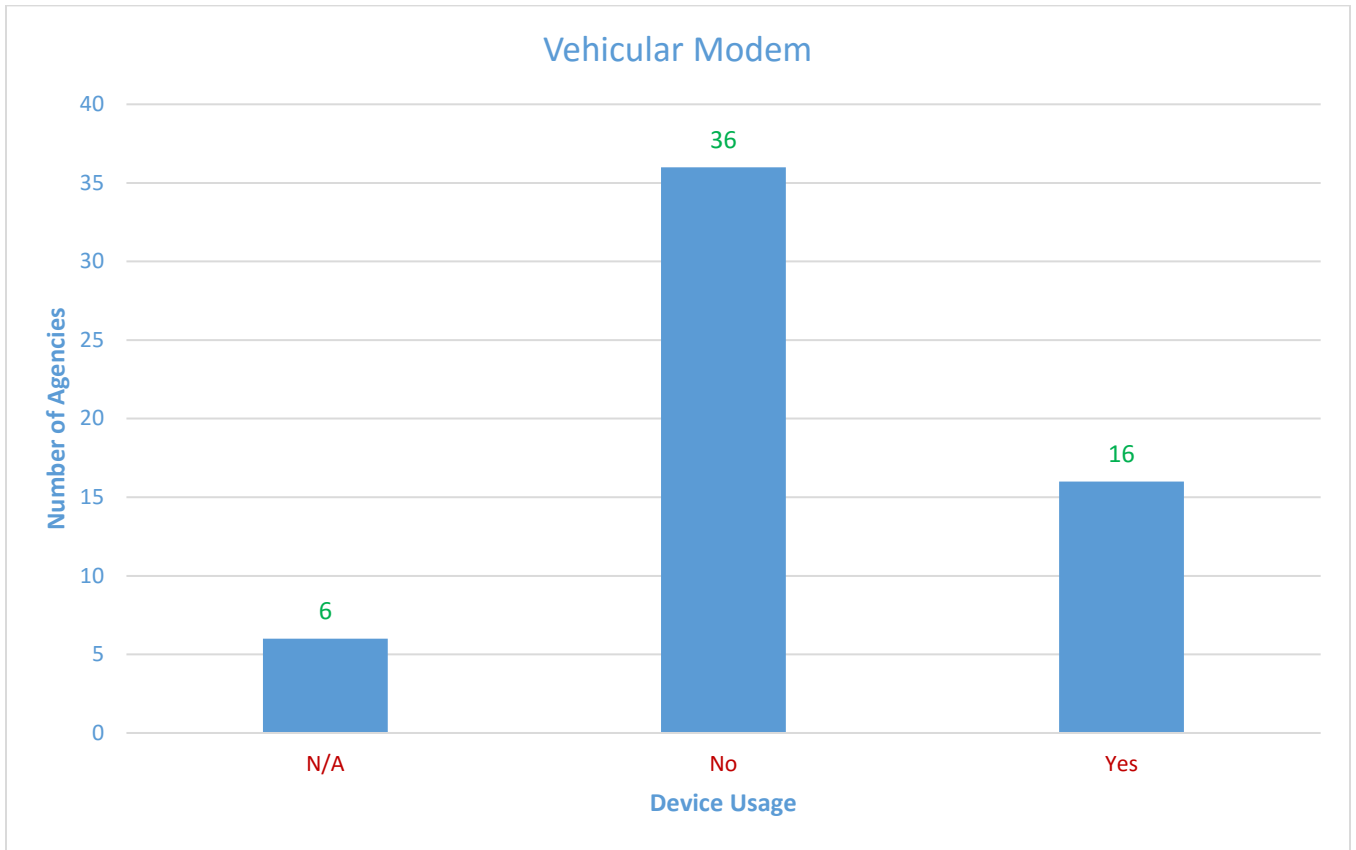
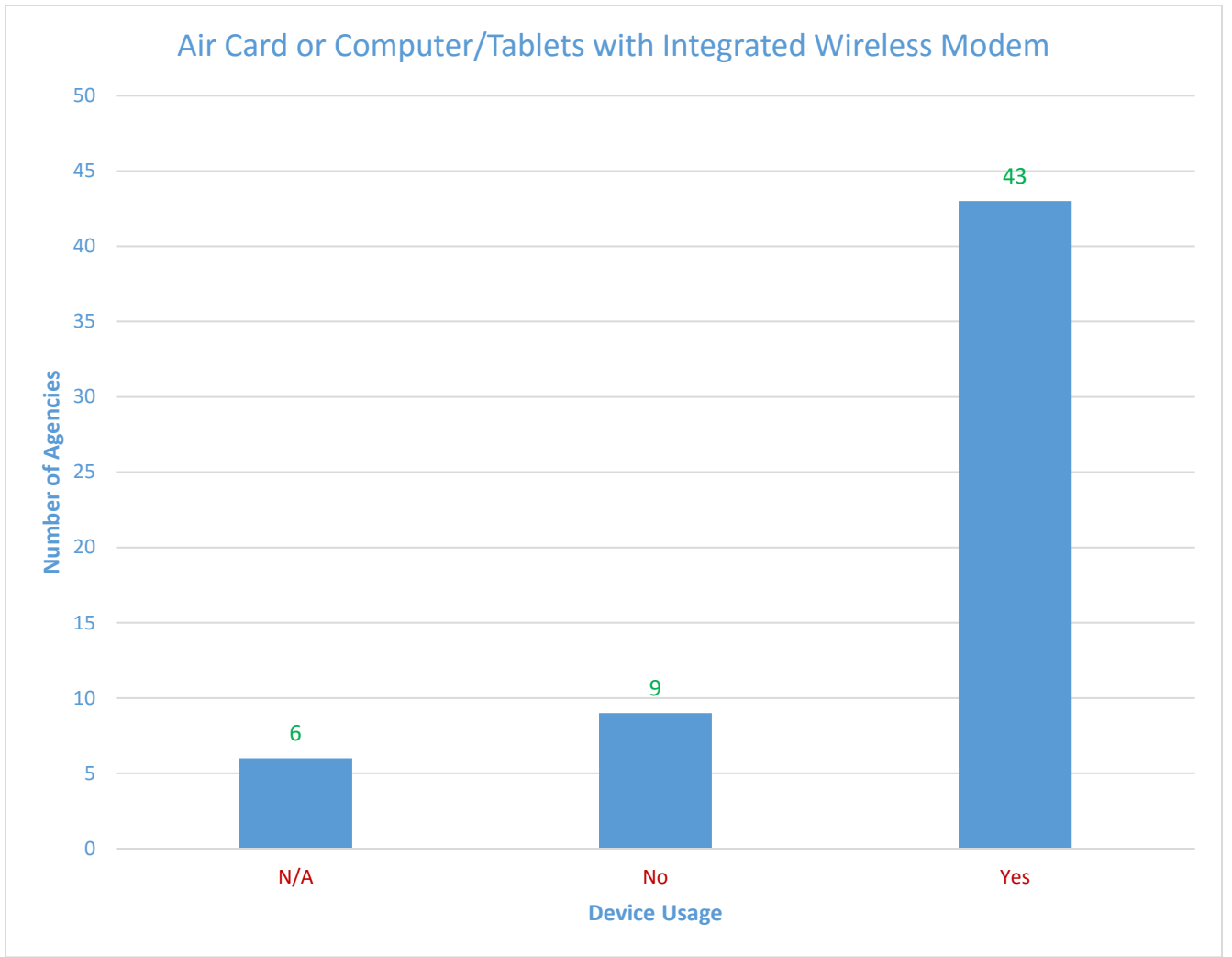


Chart 7: Vehicular Modem Usage



**Chart 8: Air Card or Computer/Tablet Usage with Integrated Wireless Modem**

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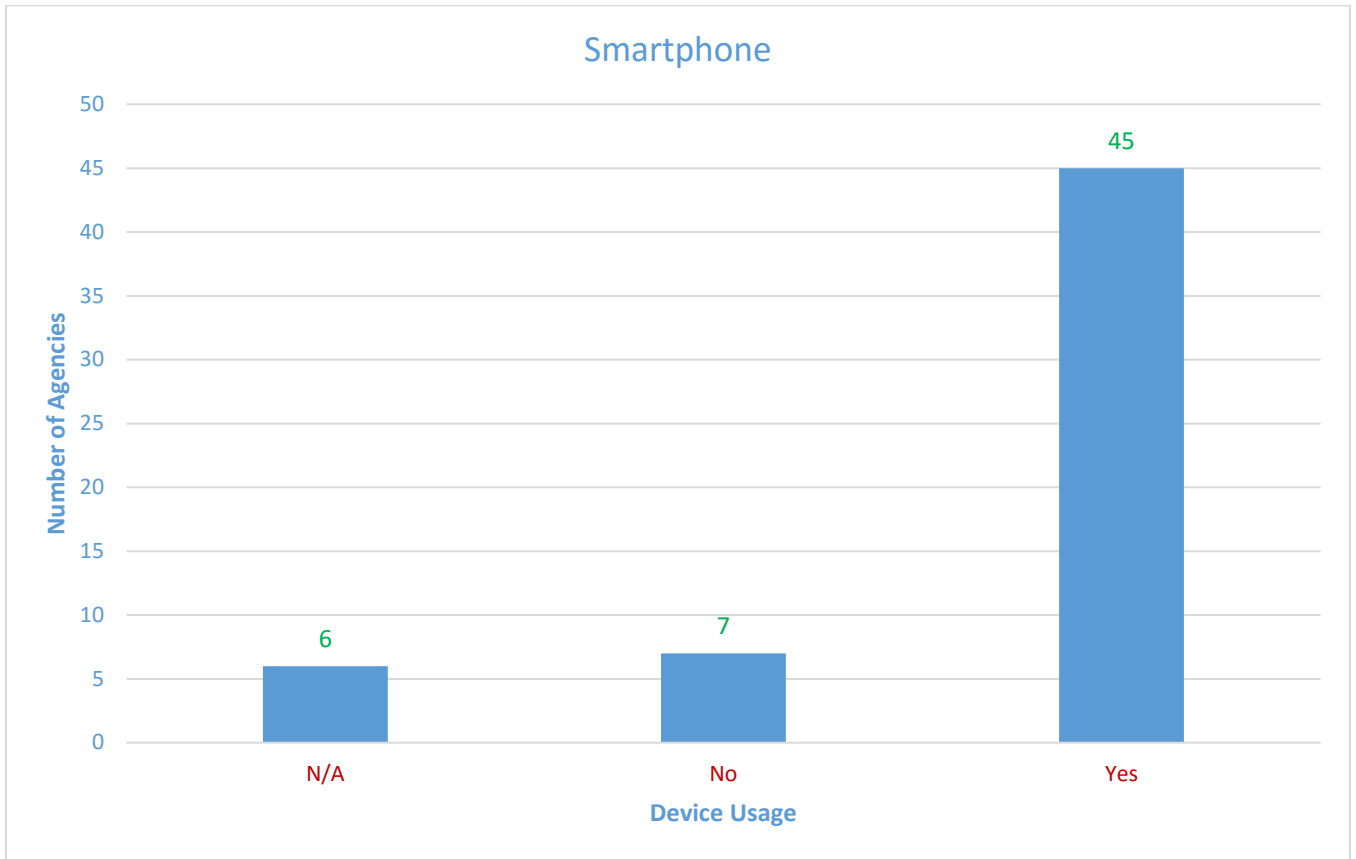


Chart 9: Smartphone Usage

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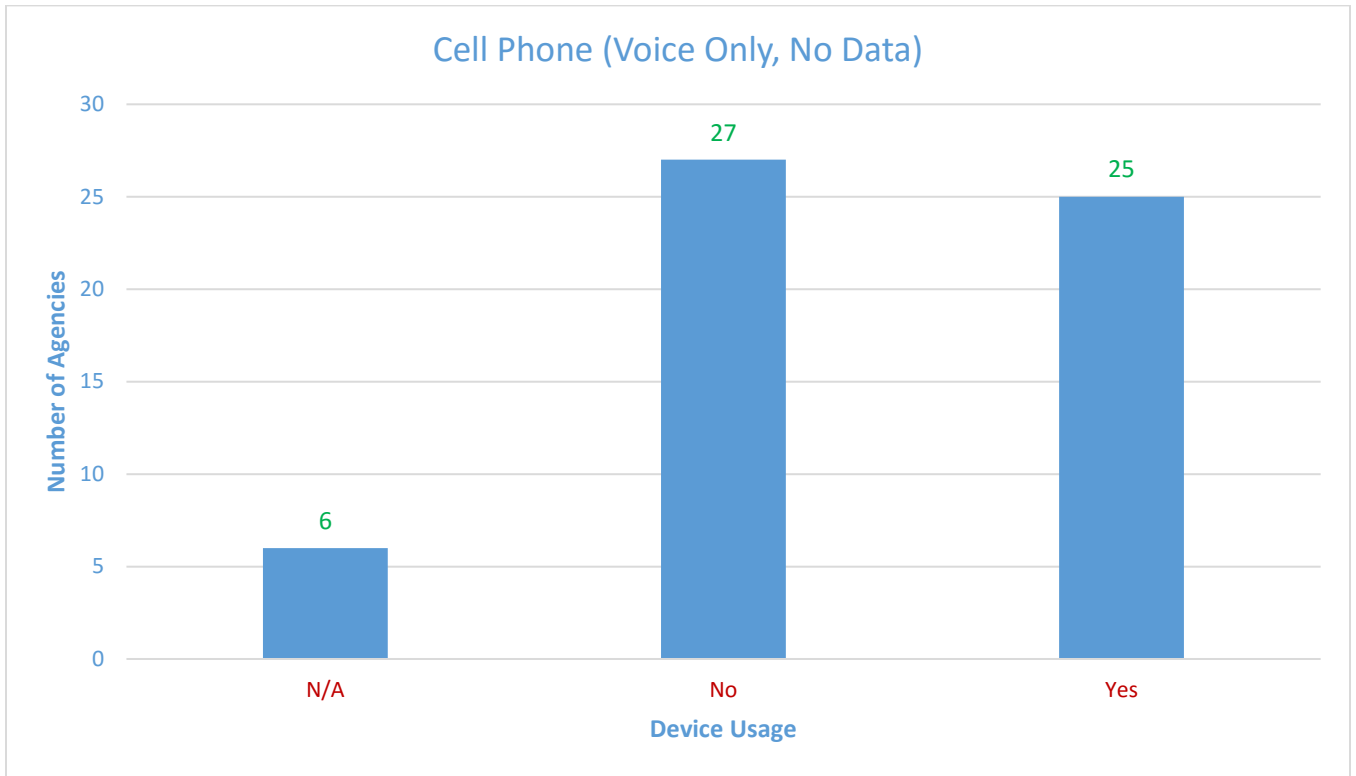
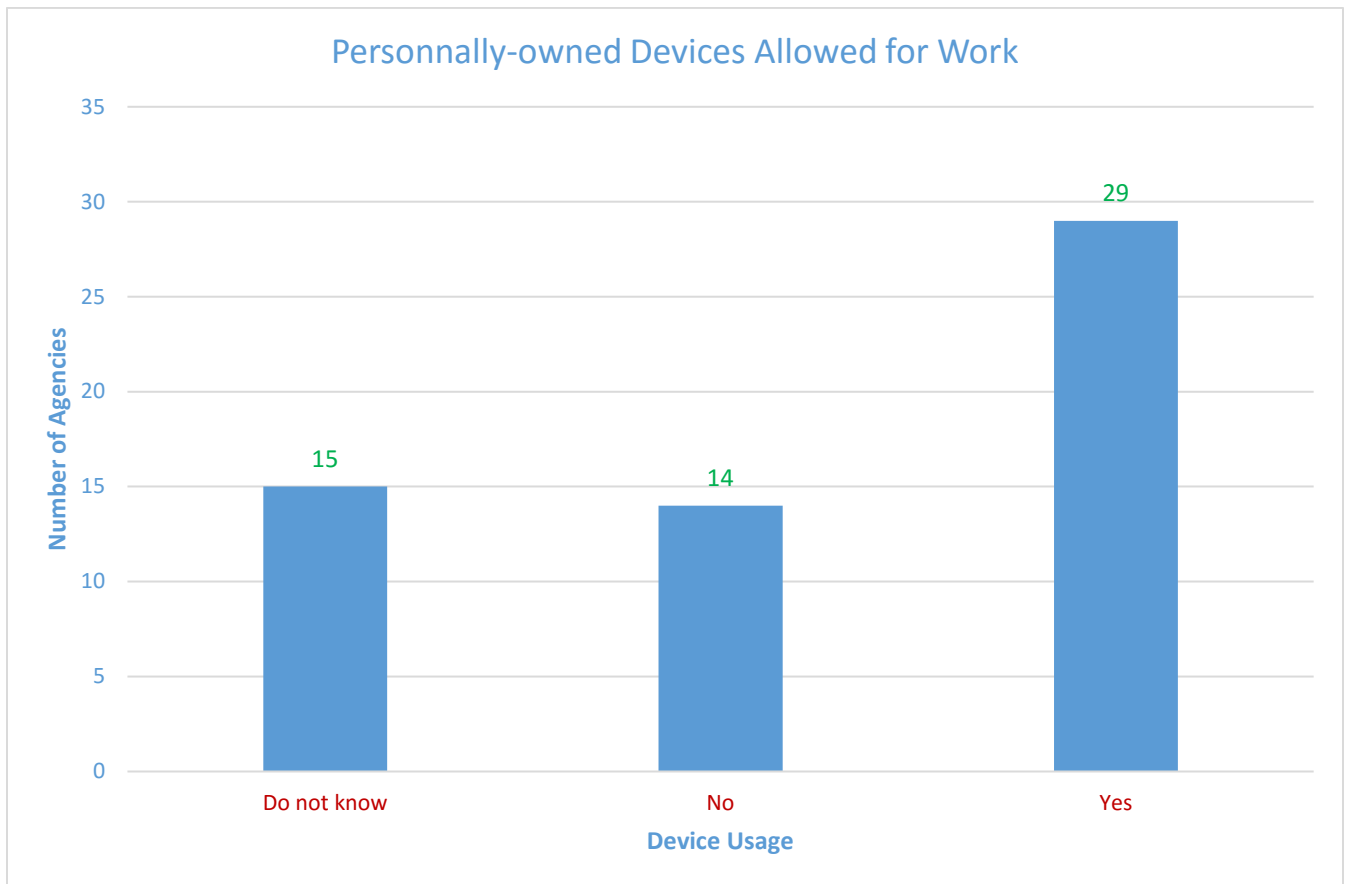


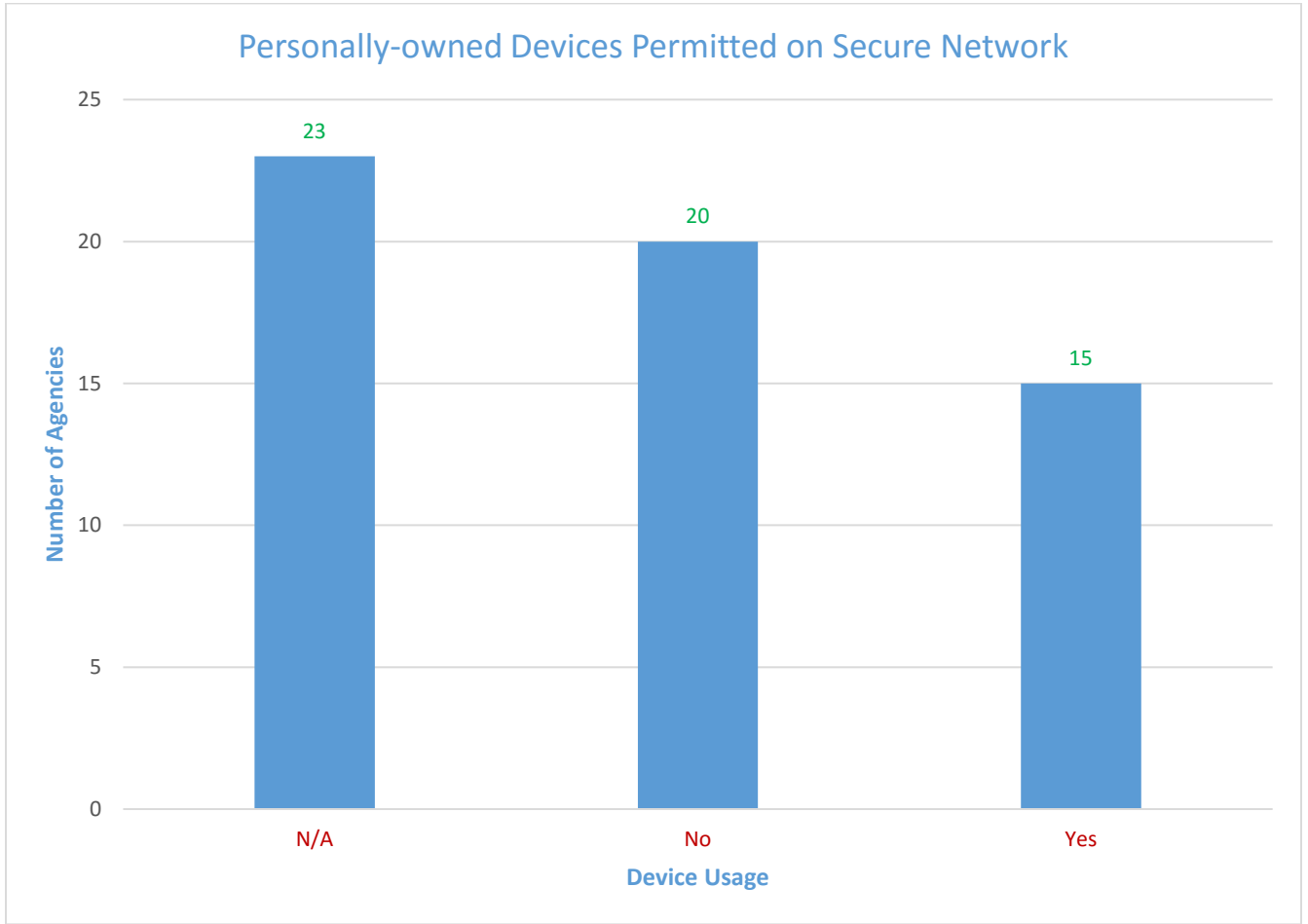
Chart 10: Cell Phone Usage (Voice Only)

Charts 11–13 pertain to agencies that allow personal devices to be utilized for work, whether those devices are permitted access to the agency’s secure network, and whether the agency provides a stipend to employees for using their personal devices.

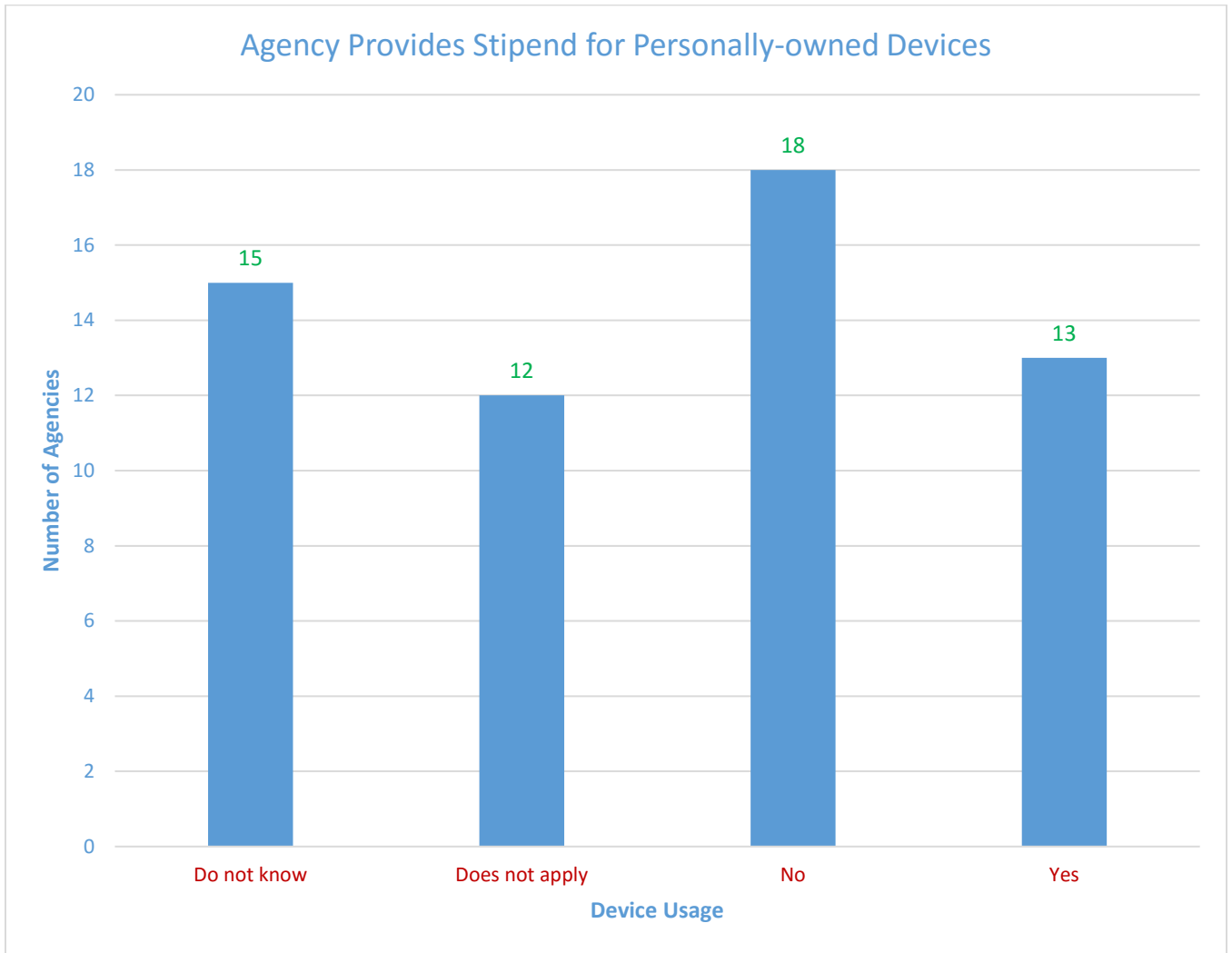
This information is provided for network planning purposes in that it is believed there will be many more devices on the APSBN than the number of devices currently issued by agencies for use on commercial networks. If the APSBN is going to be built as a BYOD network, then appropriate capacity needs to be taken into consideration for the potential of multiple devices per user.



**Chart 11: Agencies Permitting Personally-owned Devices**



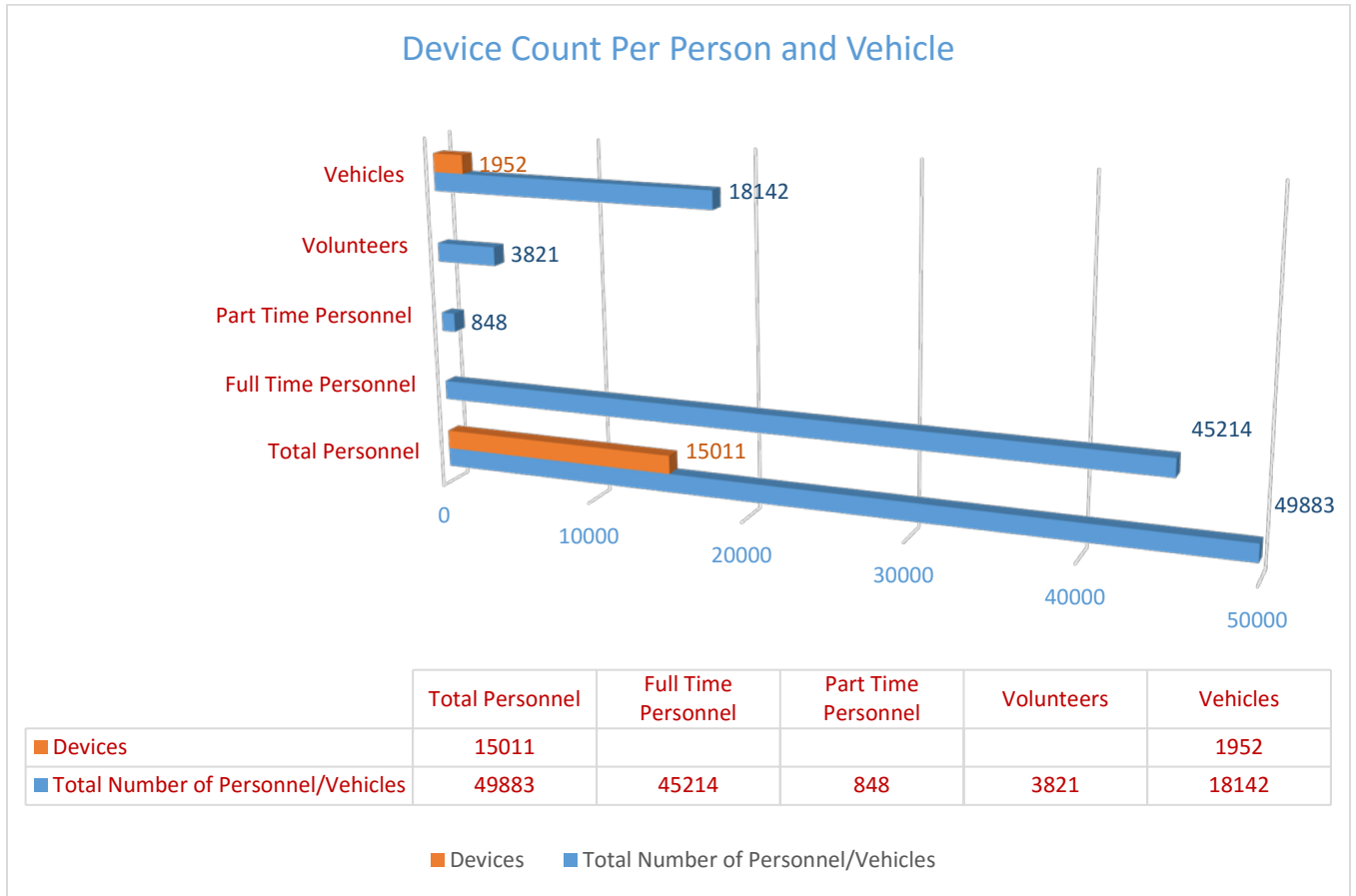
**Chart 12: Agencies Permitting Personally-owned Devices on Secure Network**



**Chart 13: Agencies Providing Stipend for Personally-owned Devices**

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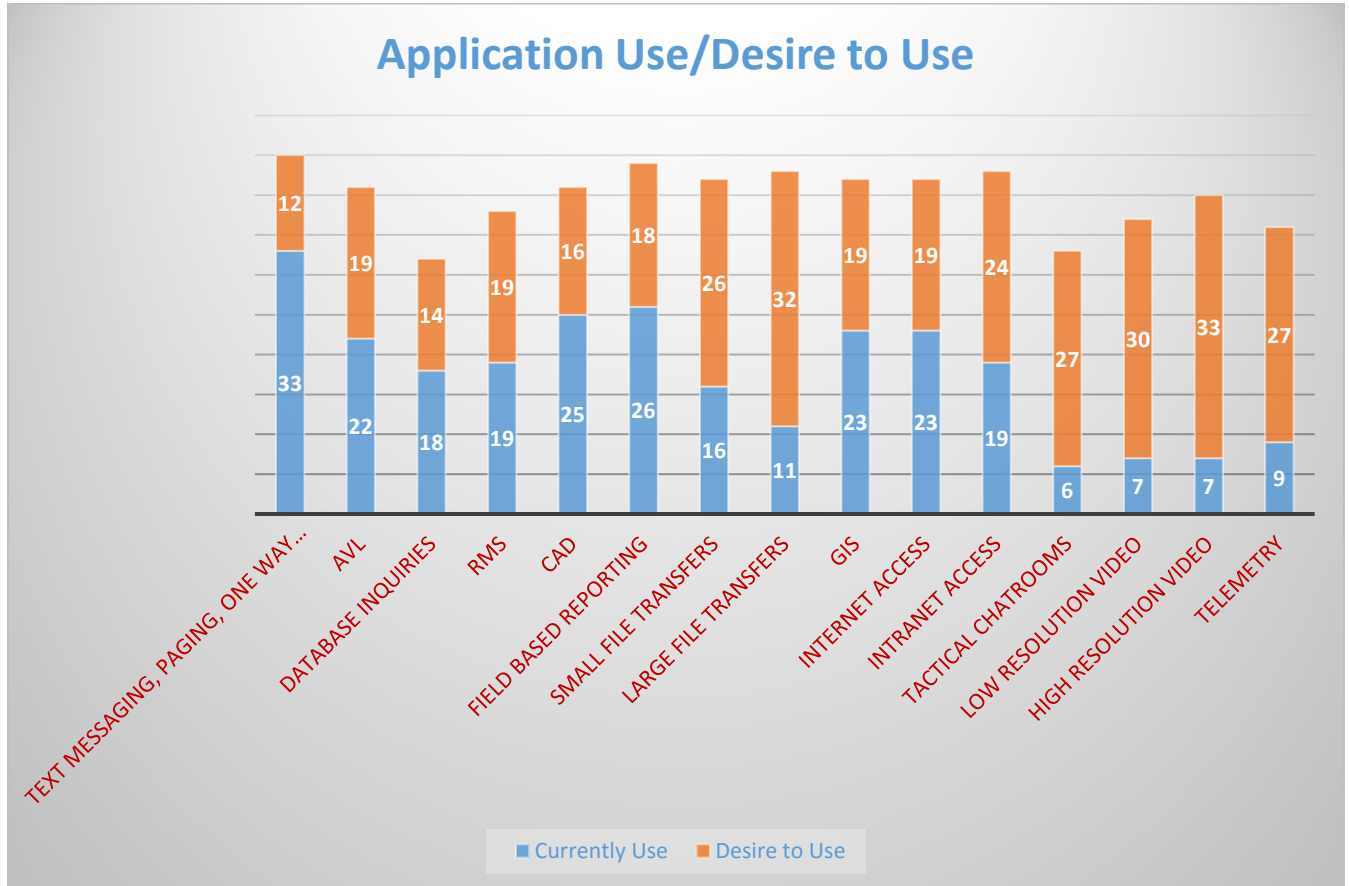
Chart 14 depicts the number of personnel, vehicles, and devices currently deployed by agencies responding to the survey.



**Chart 14: Device Count Per Person and Vehicle**



Survey respondents were asked to identify data applications currently in use, as well as those applications they have a desire to use on a future network. Chart 15 represents the responses to these questions.

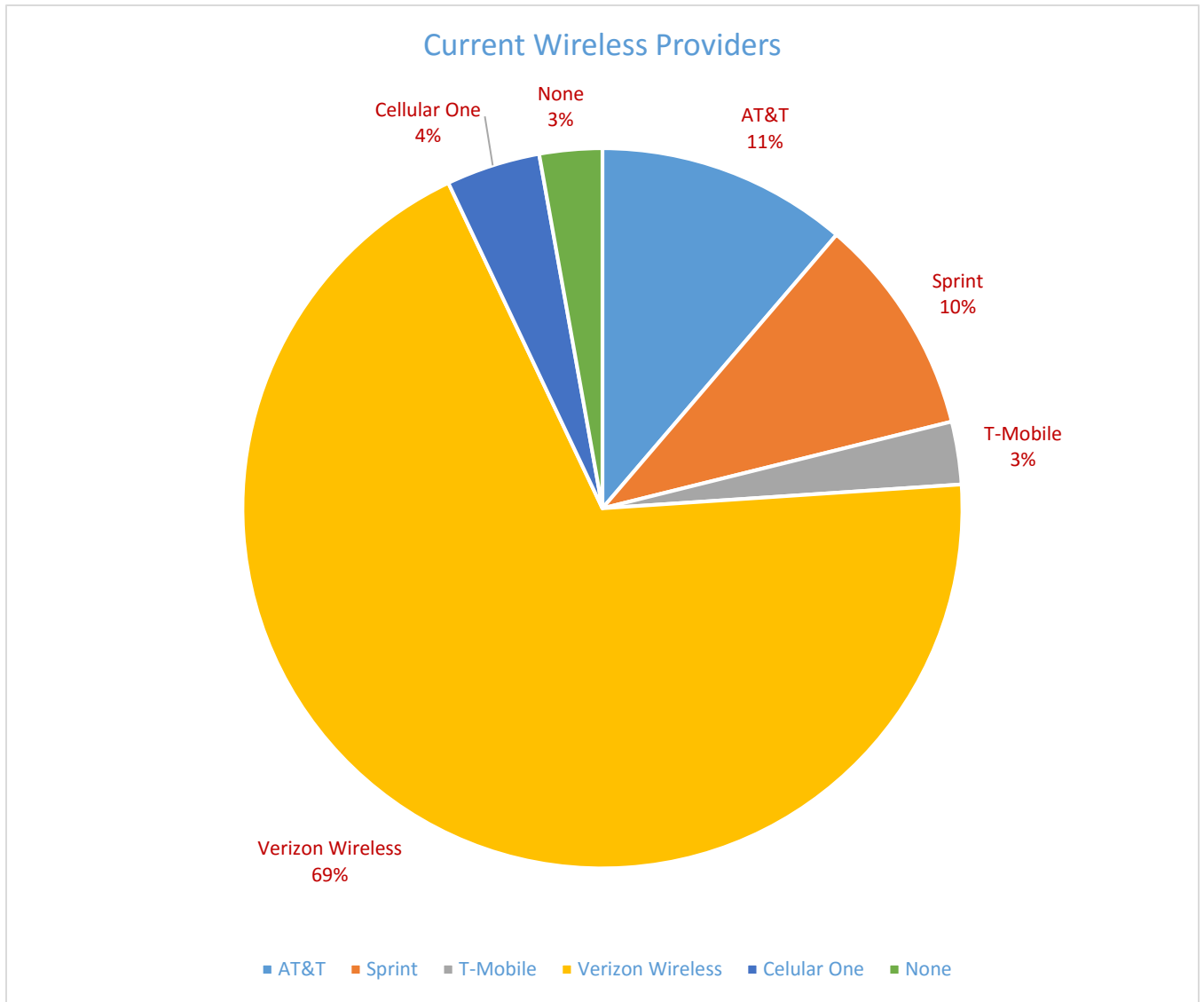


**Chart 15: Current and Desired Application Usage**

As can be seen, there is a strong desire among agencies to utilize data-intensive applications, such as streaming video and large file transfers.

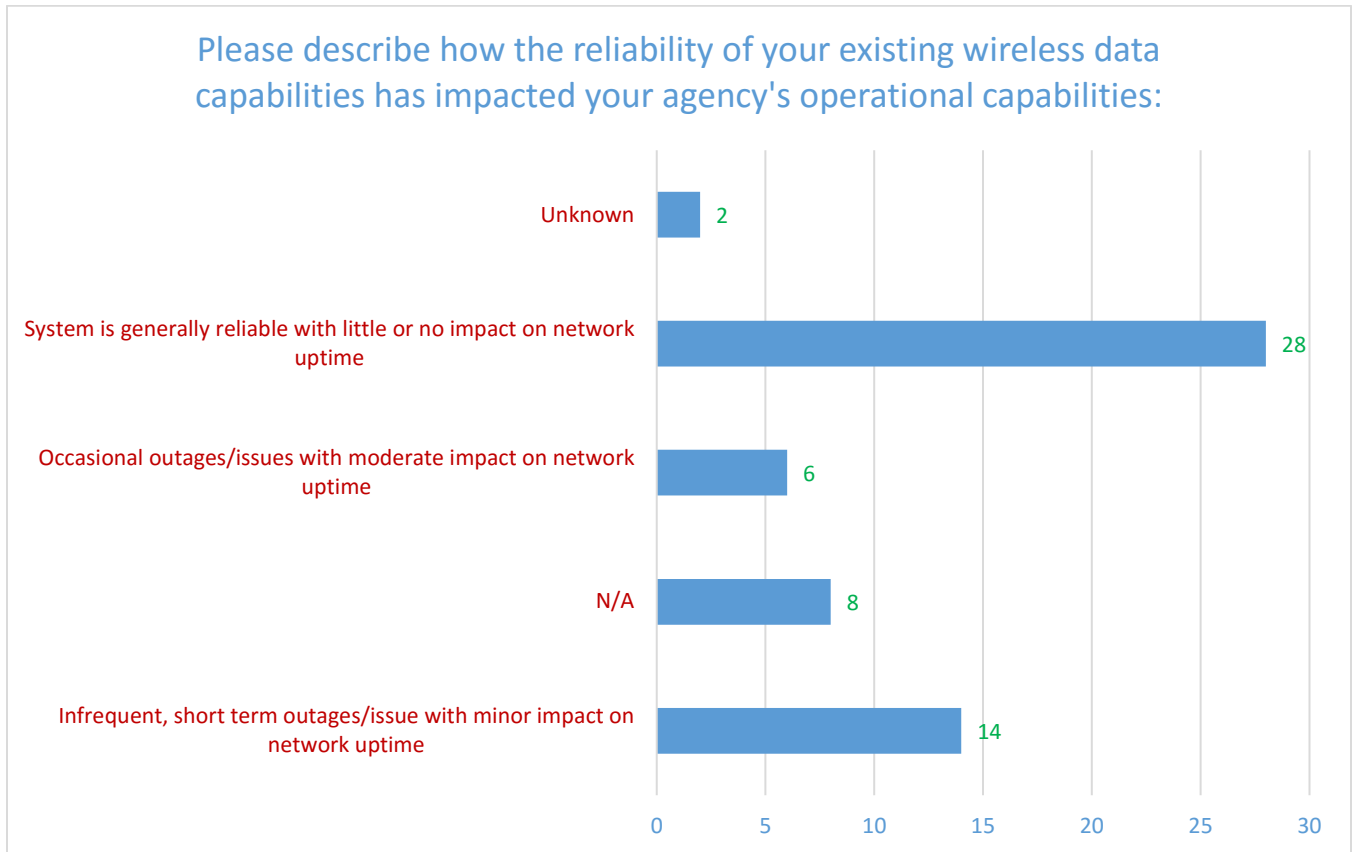
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Chart 16 depicts the current commercial wireless providers utilized by the responding agencies.



**Chart 16: Current Wireless Service Providers**

Chart 17 represents the reliability of current wireless data systems and how it impacts operations, as indicated by survey respondents.



**Chart 17: Network Reliability and Impact on Operations**

Chart 18 depicts the coverage level provided by current commercial providers.

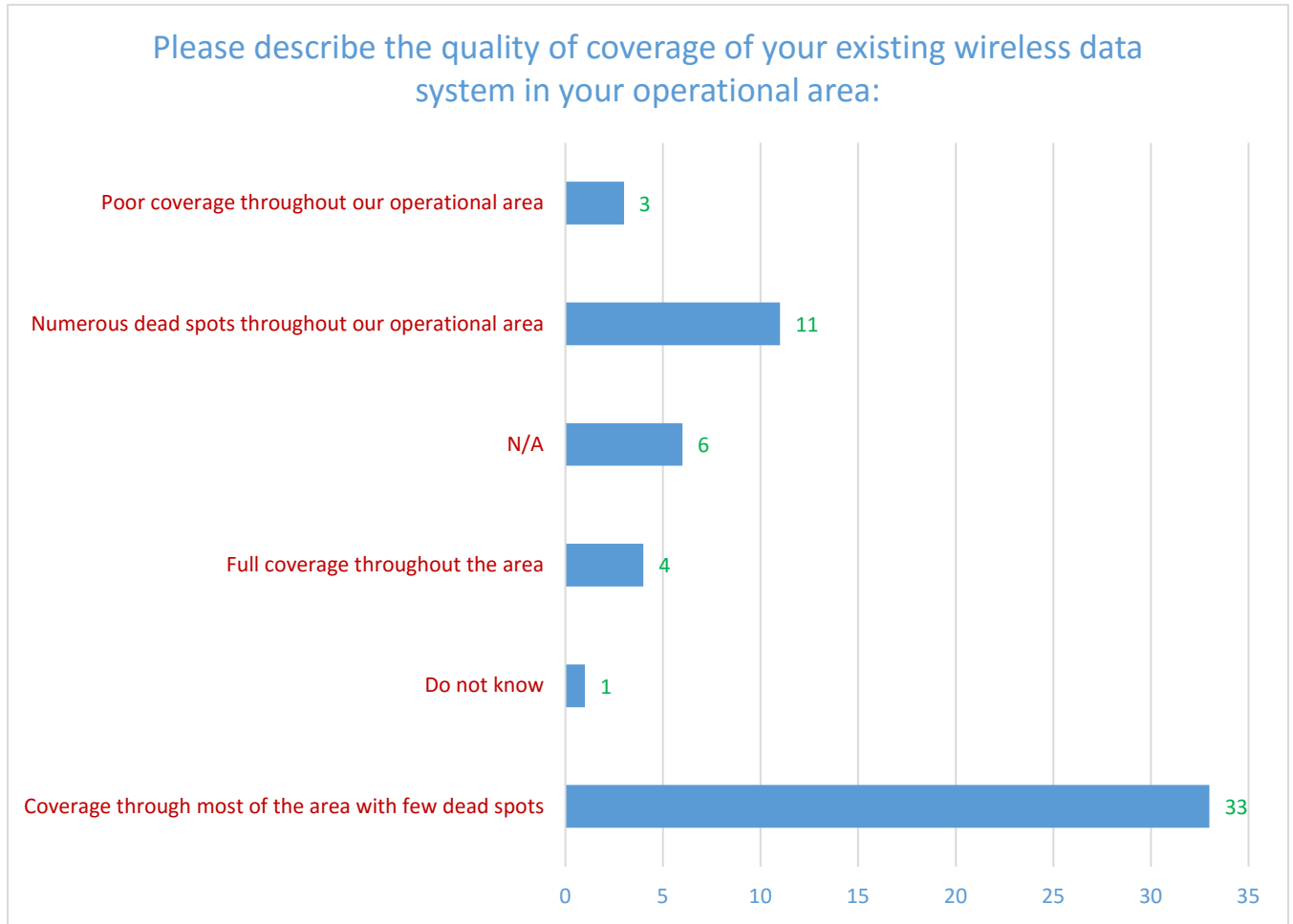


Chart 18: Current Commercial Wireless Coverage

Agencies were asked what barriers currently exist that inhibit their adoption of wireless data services.

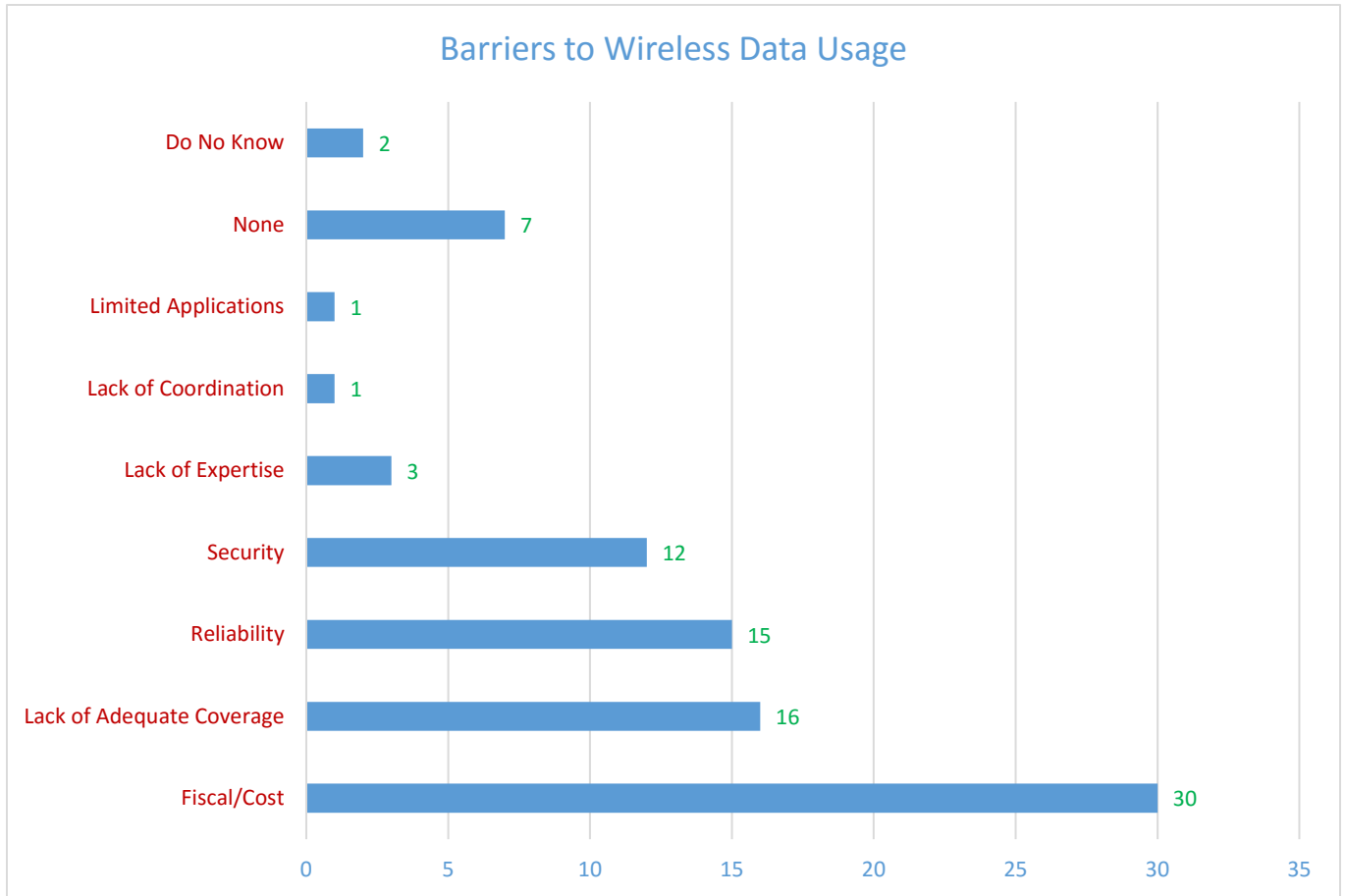


Chart 19: Current Barriers to Wireless Data Usage

As can be seen, the fiscal impact of procuring wireless data service is the most significant barrier to adoption.

### 3.4. State Coverage Objectives and Maps

Arizona has an estimated population of 6,828,065 as of July 1, 2015, according to the U.S. Census Bureau, with a population density of 56.3 persons per square mile. The land area of the state is 113,594 square miles. Much of the resident population is concentrated in the metropolitan Phoenix and Tucson areas, and Bullhead City, Casa Grande, Flagstaff, Kingman, Lake Havasu City, Maricopa, Prescott, Prescott Valley, Sierra Vista, and Yuma areas. Arizona receives millions of non-residents during winter months, tourist seasons, and special events; these visitors are spread across the state, including sparsely populated areas. The Grand Canyon alone has more than 1 million visitors per year.

Image 1 depicts Arizona's population density.

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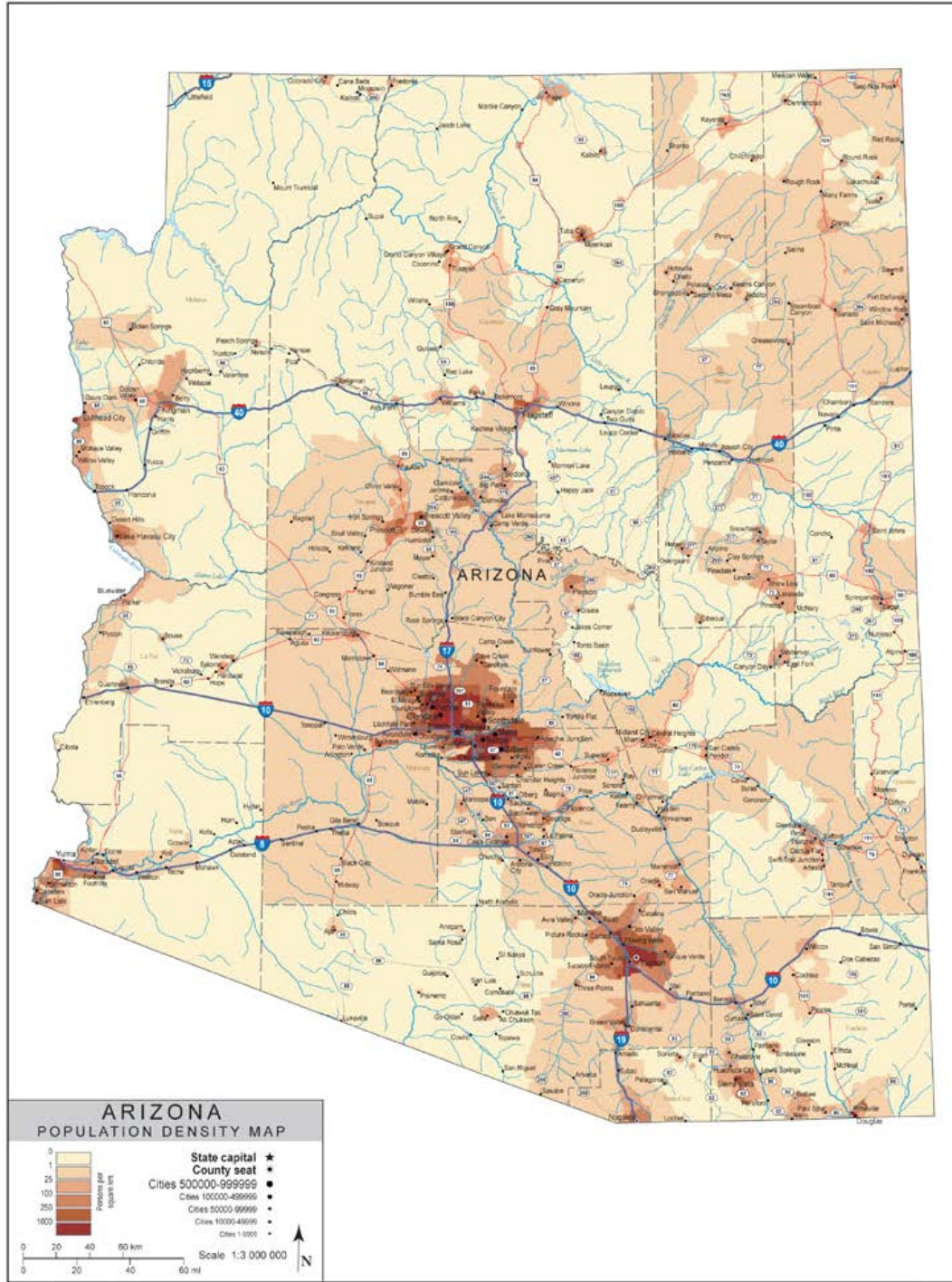


Image 1: Arizona Population Density<sup>13</sup>

<sup>13</sup> MAP LICENSED TO MISSION CRITICAL PARTNERS, INC.



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Image 3 depicts Arizona's population density by county in square miles.

ARIZONA POPULATION DENSITY BY COUNTY				
Rank	County	Population	Area	Density
1	Maricopa County	4,167,947	9,200	453
2	Pima County	1,010,025	9,187	110
3	Pinal County	406,584	5,365	76
4	Yavapai County	222,255	8,123	27
5	Mohave County	204,737	13,311	15
6	Yuma County	204,275	5,513	37
7	Coconino County	139,097	18,618	7
8	Cochise County	126,427	6,165	21
9	Navajo County	108,277	9,950	11
10	Apache County	71,474	11,197	6
11	Gila County	53,159	4,757	11
12	Santa Cruz County	46,461	1,236	38
13	Graham County	37,666	4,622	8
14	La Paz County	20,152	4,499	4
15	Greenlee County	9,529	1,843	5

Source: United States Census Bureau / American FactFinder.  
2015 Population Estimates Program.

"Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015".  
Web. March 2016. <http://factfinder2.census.gov>.

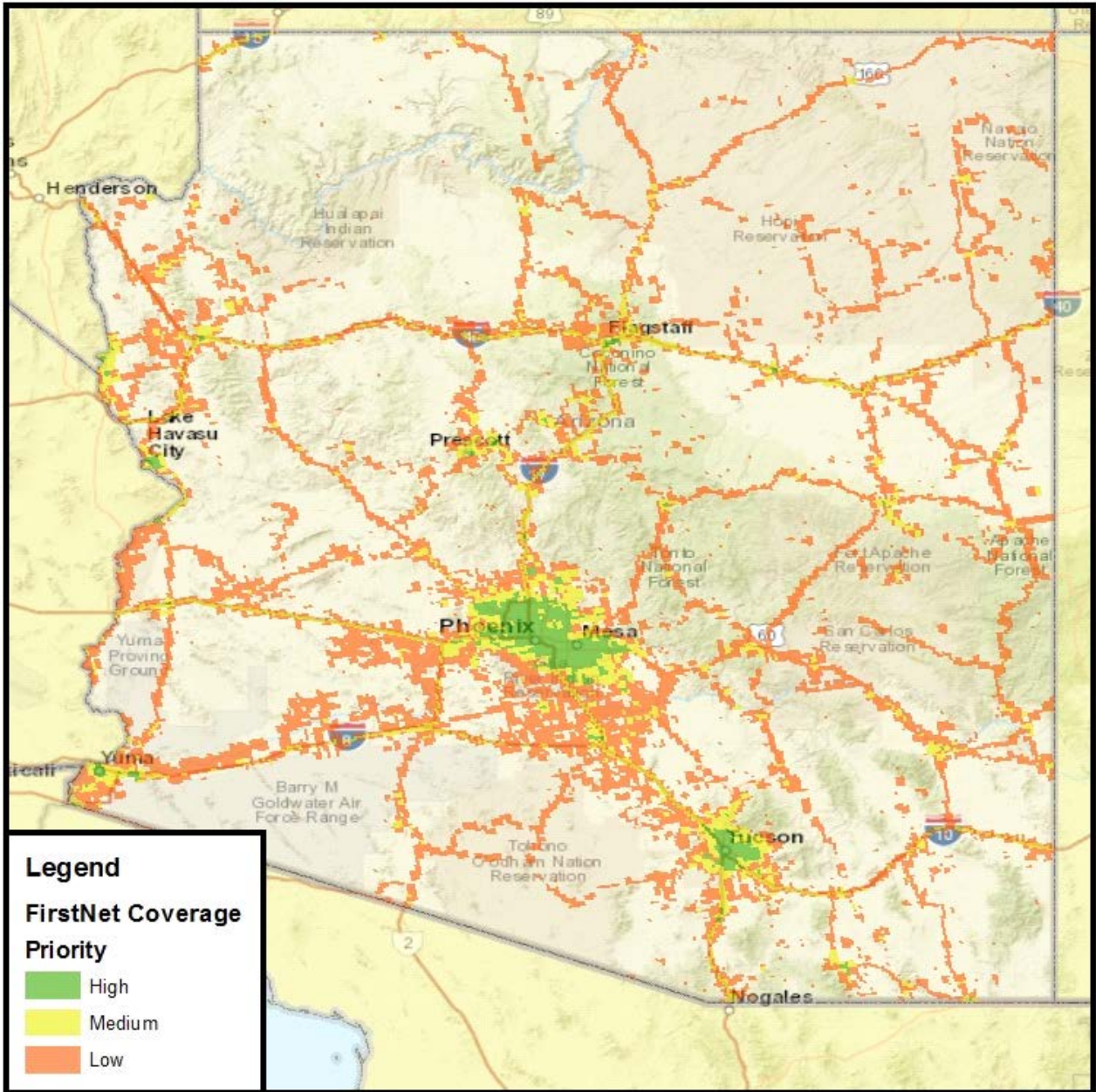
Source of Area United States Census Bureau, TIGER Database

**Image 3: Population Density by County**

During the data collection effort, input was solicited from all responding agencies, as well as members of the APSBN User Group concerning coverage objectives. Image 4 is the baseline coverage objectives for Arizona, which was released by FirstNet last year. The consensus opinion among stakeholders is that this coverage level does not meet the needs of the Arizona public safety community. Arizona has large rural areas with very unique public safety needs, including tribal lands, federal lands, international border with Mexico in the southwest portion of the state, a national monument in the Grand Canyon in the northwest portion of the state, plus areas prone to dangerous wildfires.



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**Image 4: FirstNet Baseline Coverage**

Data was collected concerning critical infrastructure key resources (CIKR) and calls for service (CFS) for a recent 12-month period. Survey respondents were also asked to upload maps of their areas to identify where coverage is needed. The CIKR and CFS were placed on maps and compared to the FirstNet baseline. The images that follow depict the results of this collection effort.

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Image 5 depicts the CIKR data collected. These data elements include public safety agency locations, schools, medical facilities, correctional facilities, manufacturing plants, military installations, and others.

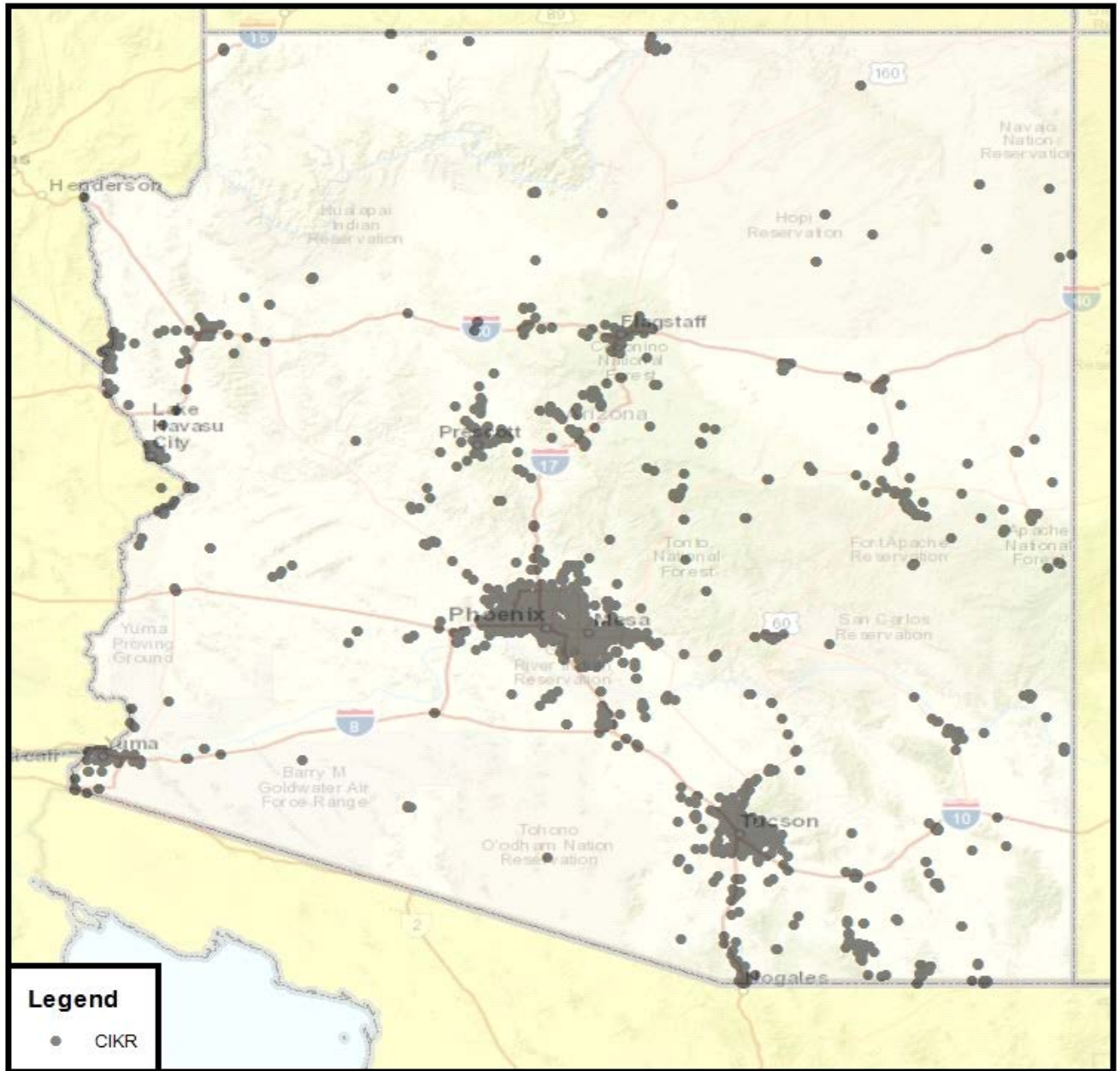


Image 5: CIKR Data

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Image 6 depicts the CFS locations that were submitted. It should be noted that these CFS points only comprise a fraction of the calls across the state for a recent 12-month period, as responses were only received from ten PSAPs.

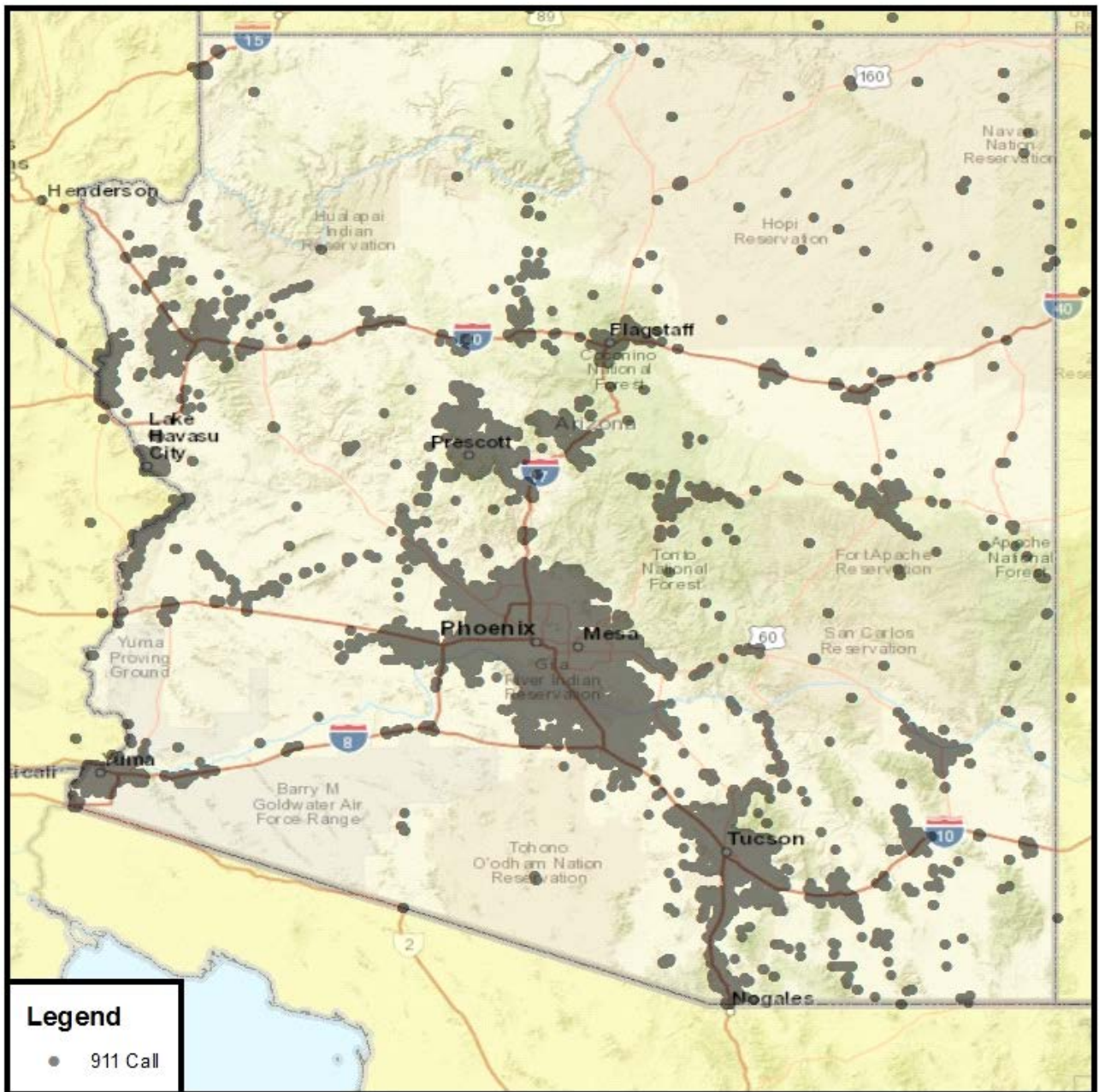


Image 6: CFS Locations (12-month Period)

CIKR data points present a higher risk for needing public safety response, while CFS points represent areas where public safety entities have responded.

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Image 7 reflects the CIKR and CFS points that lie outside of the projected FirstNet baseline coverage.

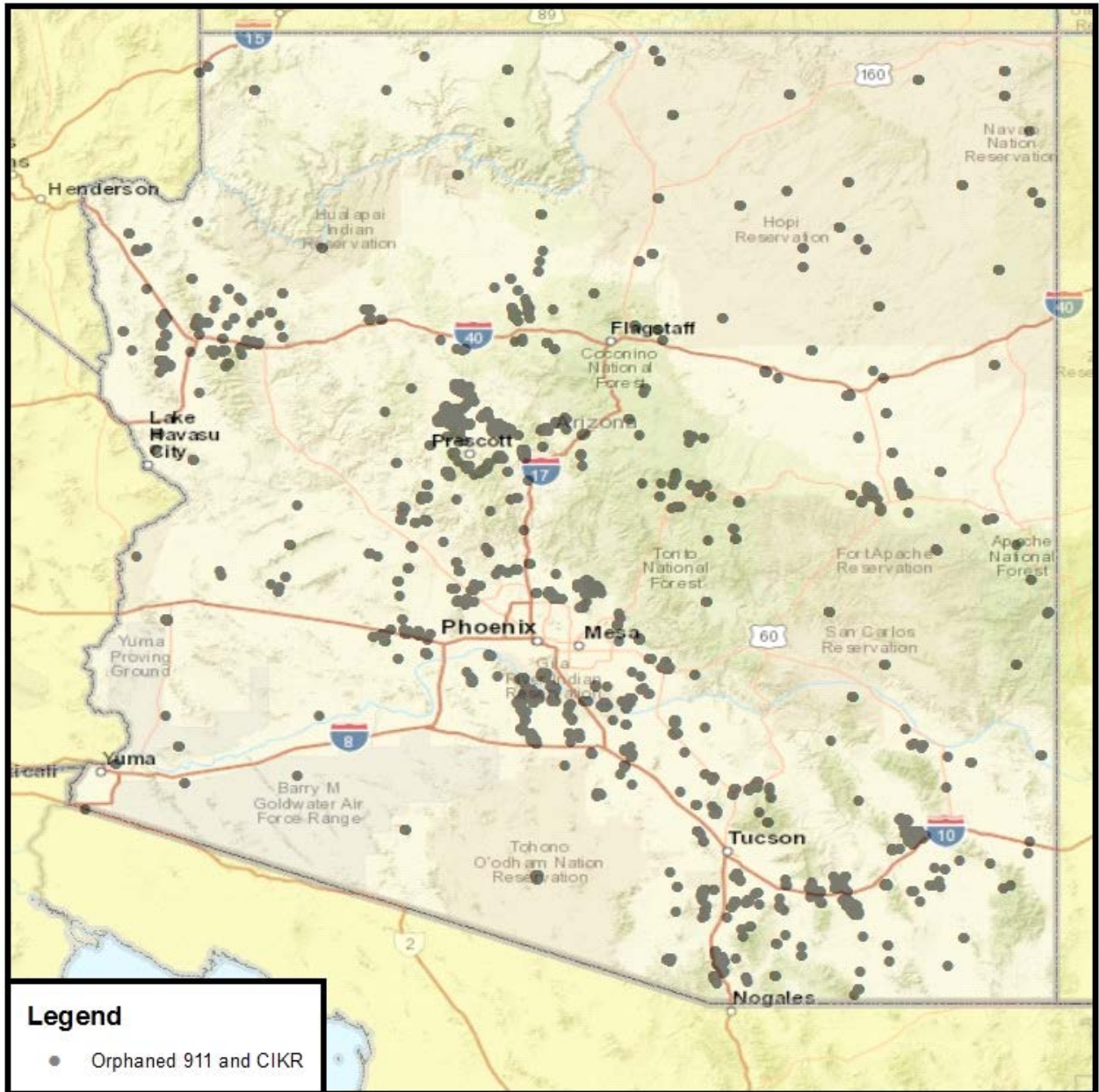


Image 7: CIKR and CFS Outside of FirstNet Baseline Coverage

As can be seen, a significant number of data points would not be covered under the FirstNet baseline model.

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The images that follow were submitted by responding agencies depicting areas in need of network coverage.

Image 8 was submitted by the Arizona Department of Emergency and Military Affairs, which depicts a need for coverage on the southwestern international border with Mexico.

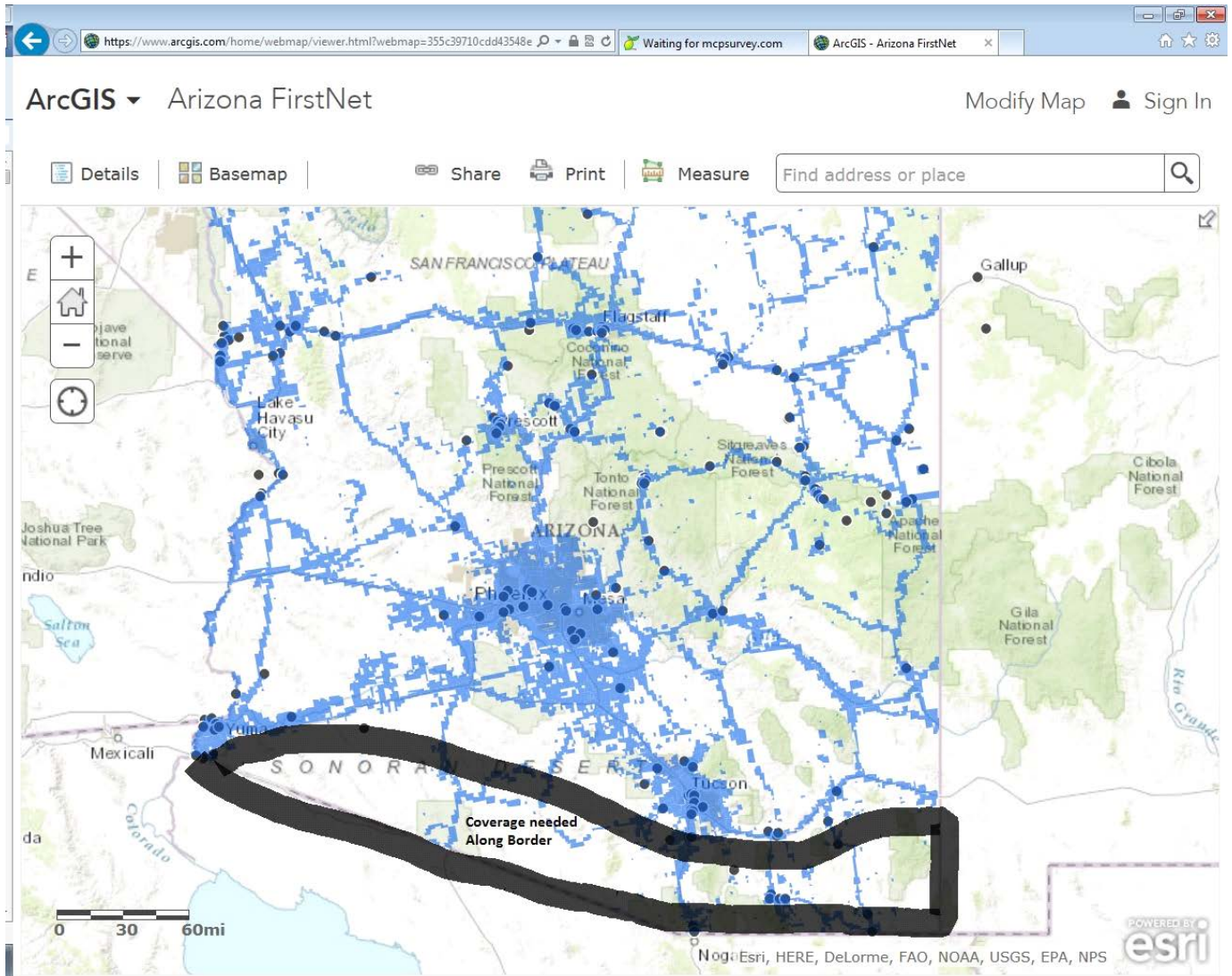
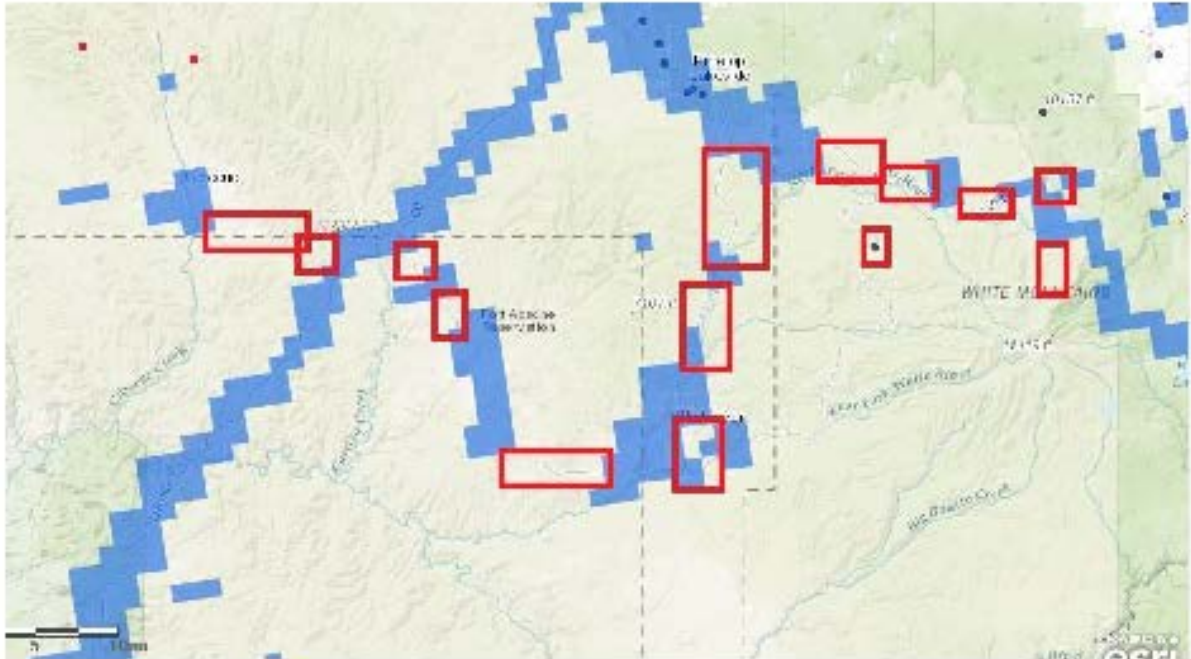


Image 8: Coverage Needs on Mexican Border

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Image 9 was submitted by the Fort Apache Police Department, which depicts a need for coverage in areas on the Fort Apache Indian Reservation.



**Major road system on the Fort Apache Indian Reservation have numerous Vehicle Accidents.**  
**West side. Cibecue to Highway 60. BIA Route 12 has numerous Motor Vehicle Crashes.**  
**Central: Highway 73 from Carrizo Southeast to Whiteriver then North to HonDah Junction.**  
**East Side: US 260 is the main corridor for Sunrise Ski Park and Resort.**  
**Boxes below US 260: The small town of Hawley Lake and the Sunrise Ski Park and Resort.**

**Image 9: Fort Apache Indian Reservation Coverage Needs**

Image 10 was submitted by the Yavapai County Sheriff, which depicts a need for coverage along the Route 87 corridor for inmate transports.

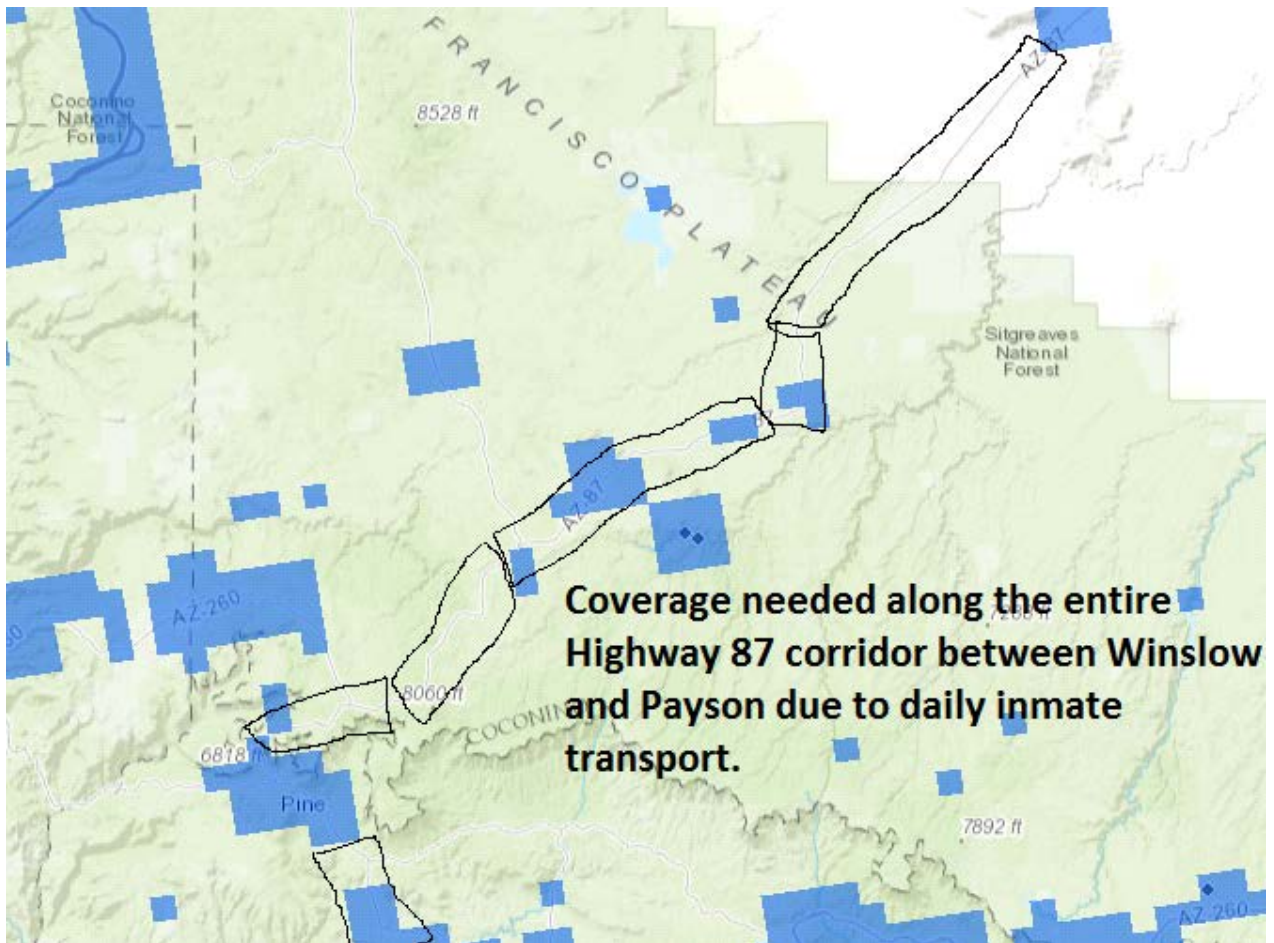


Image 10: Highway 87 Corridor Coverage Needs

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Image 11 was provided by Yavapai County. Each map area indicated below is magnified in images that follow.

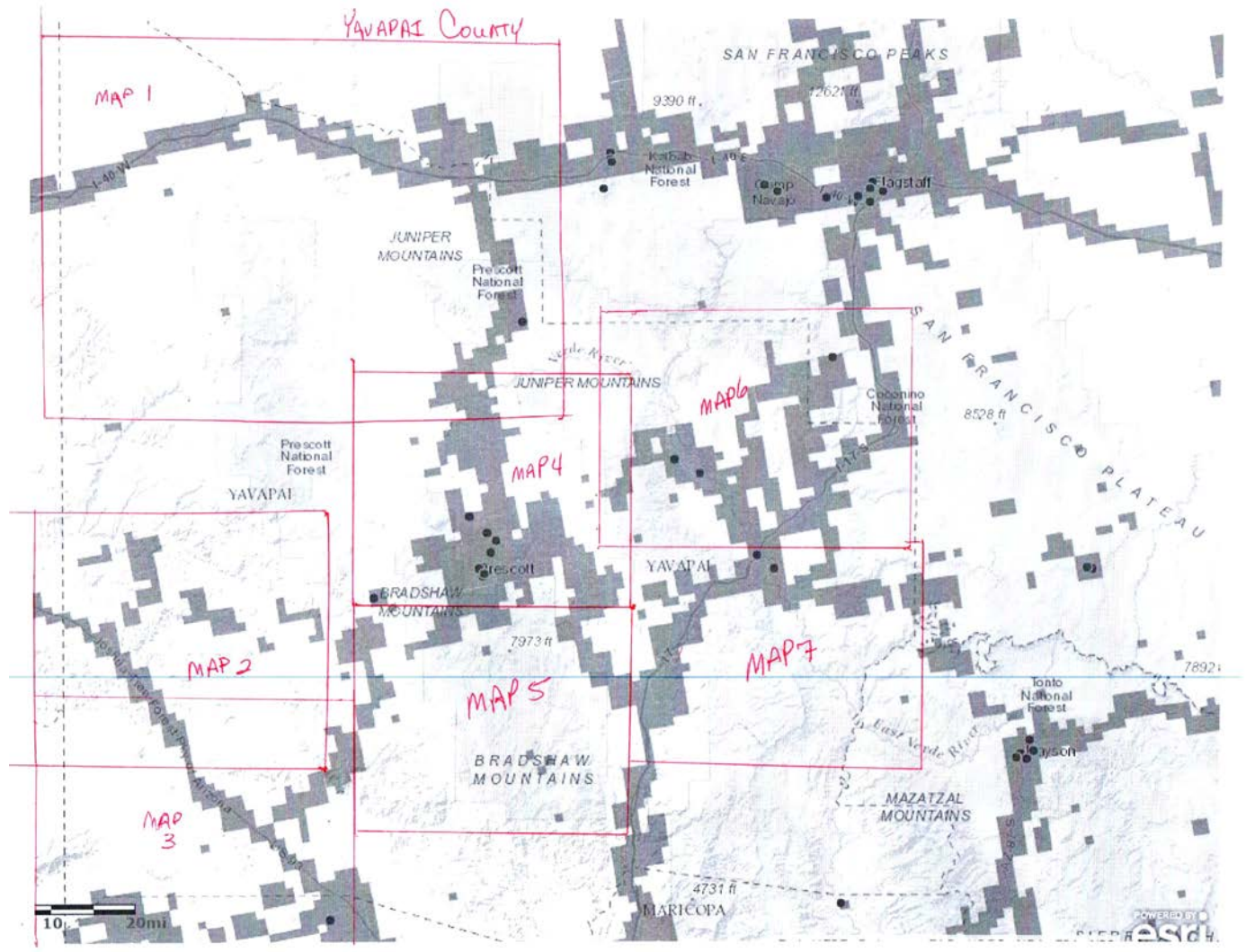


Image 11: Yavapai County Areas Needing Coverage



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Image 12 represents Map 1 from Yavapai County. Areas outlined in red depict a need for coverage.

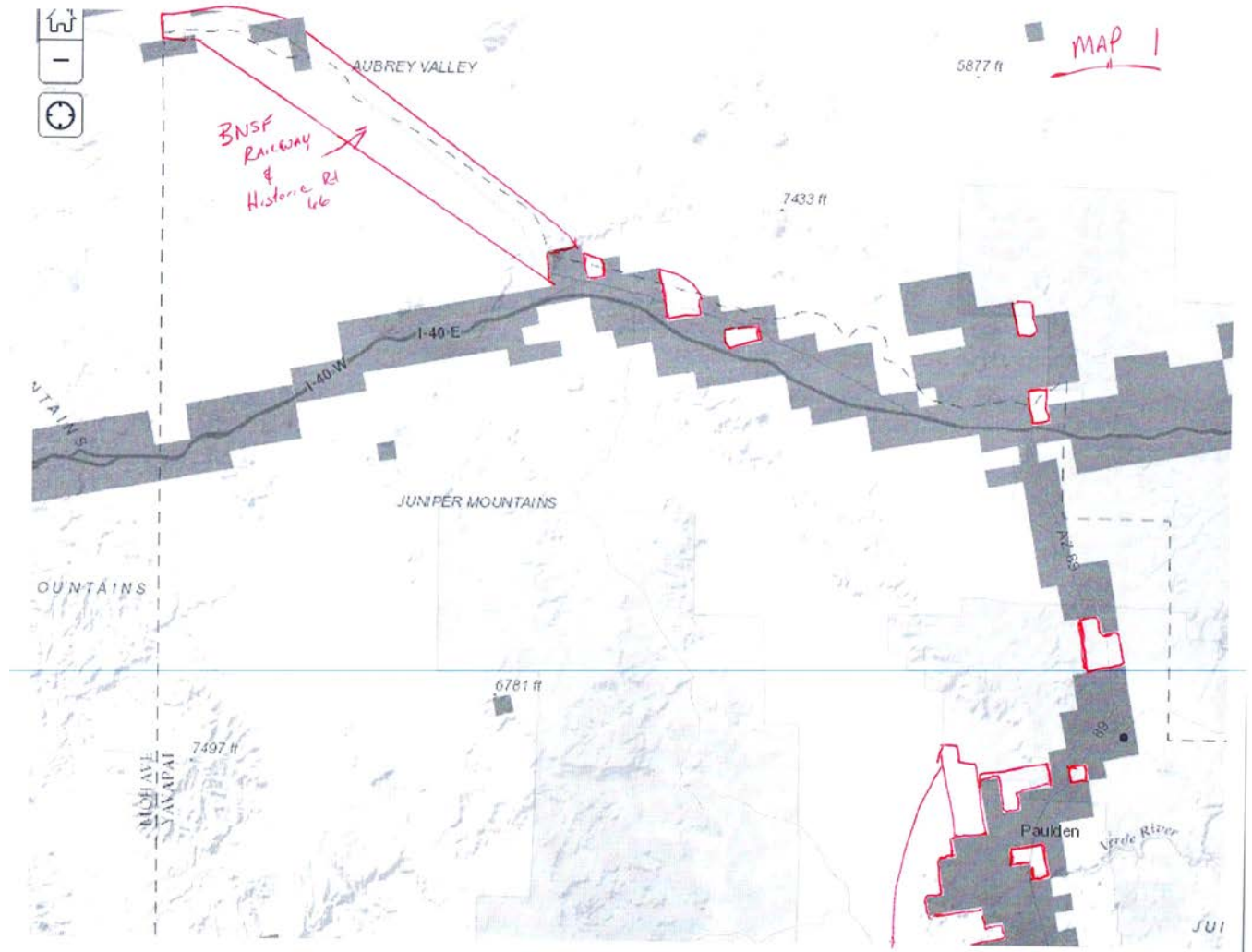


Image 12: Yavapai County "Map 1"



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Image 14 represents Map 3 from Yavapai County. Areas outlined in red depict a need for coverage.

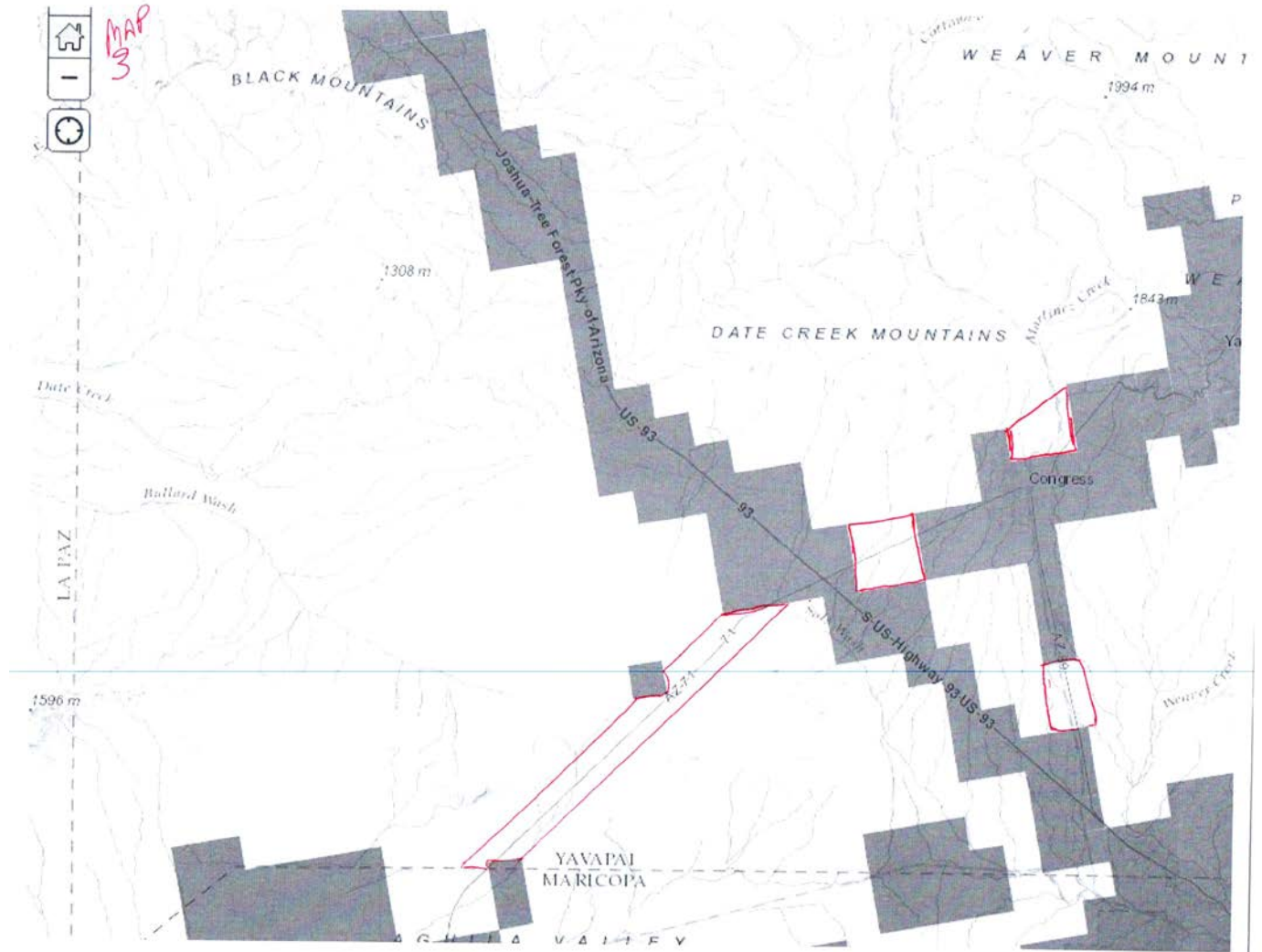


Image 14: Yavapai County “Map 3”

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Image 15 represents Map 4 from Yavapai County. Areas outlined in red depict a need for coverage.

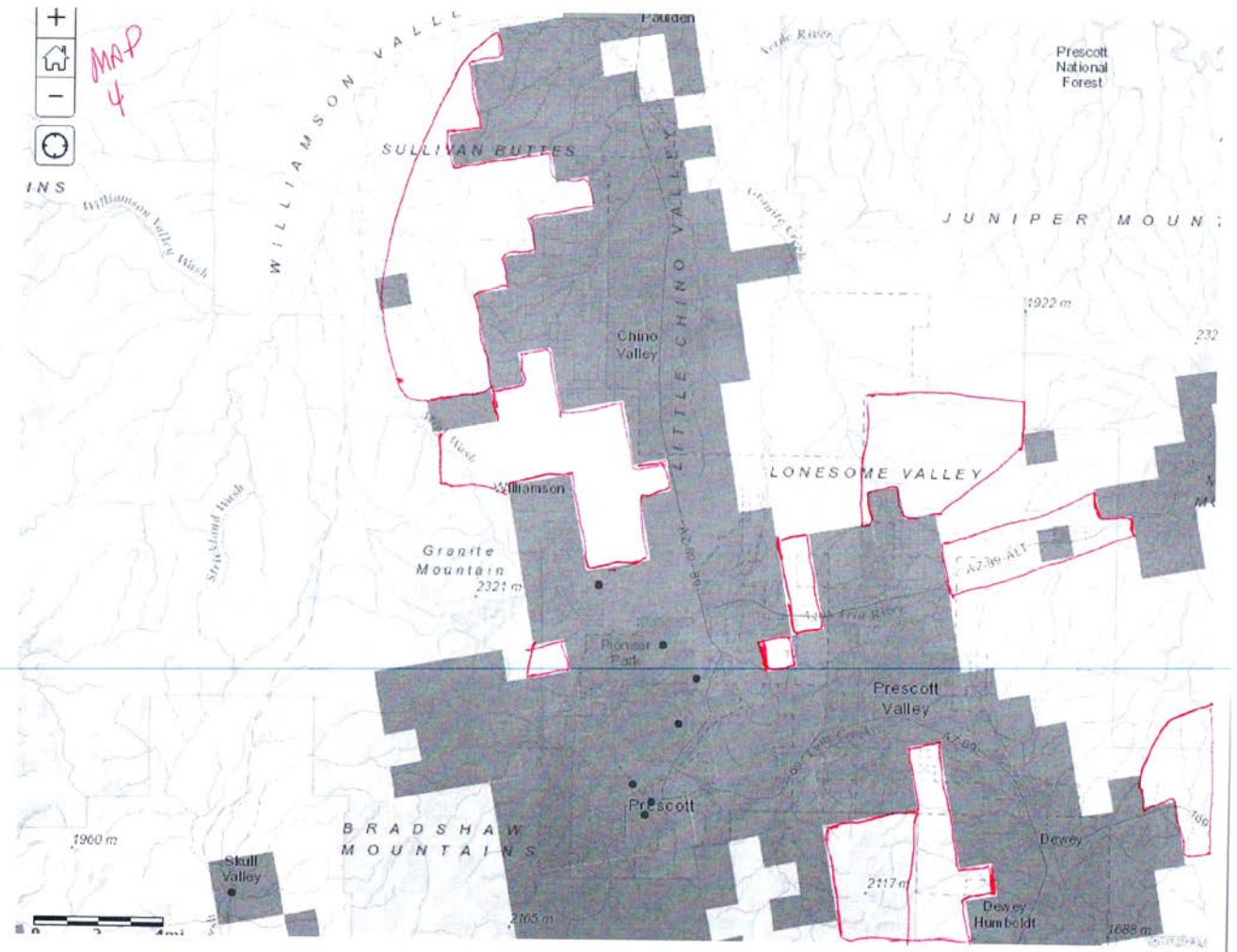


Image 15: Yavapai County "Map 4"

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Image 16 represents Map 5 from Yavapai County. Areas outlined in red depict a need for coverage.

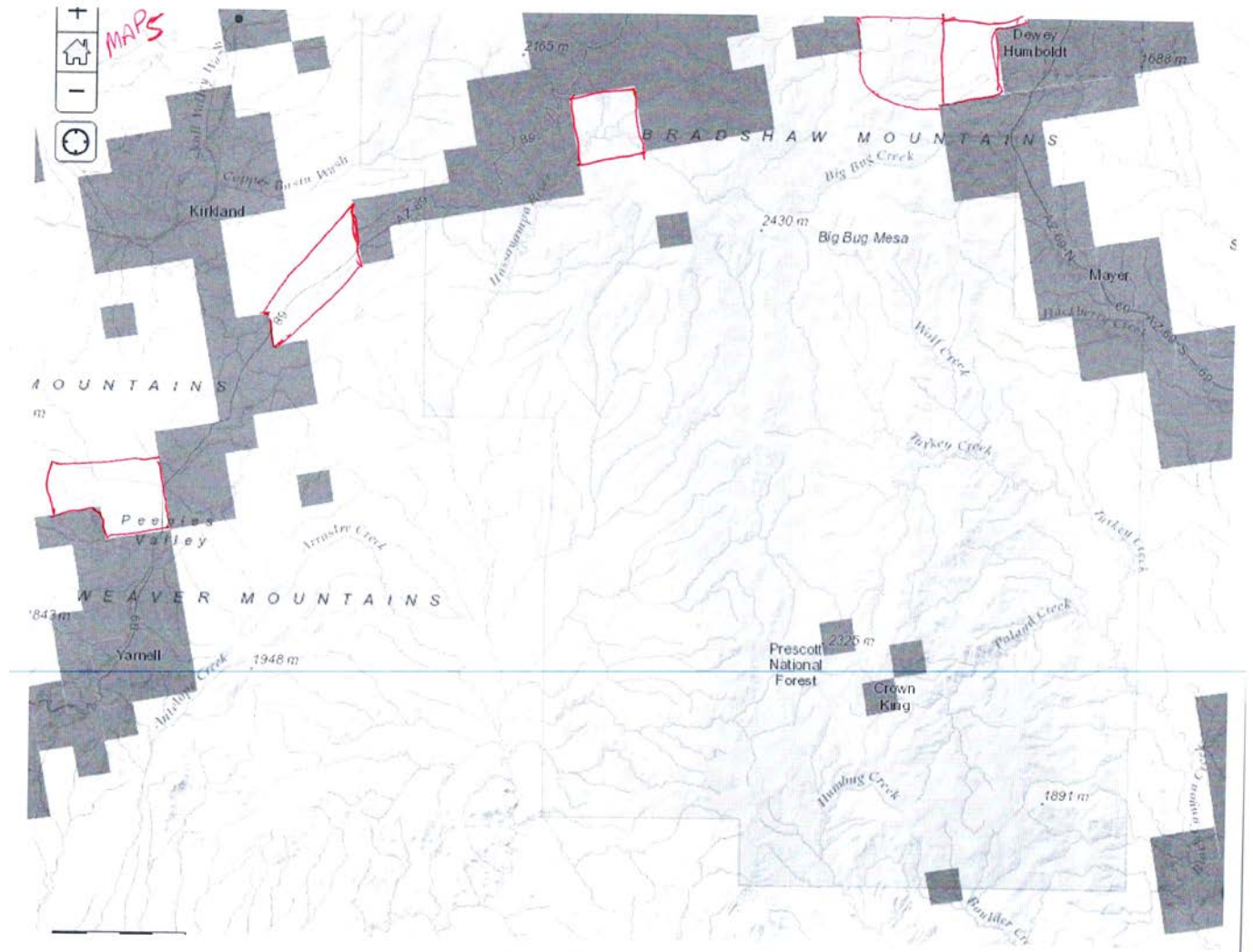


Image 16: Yavapai County “Map 5”

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Image 17 represents Map 6 from Yavapai County. Areas outlined in red depict a need for coverage.

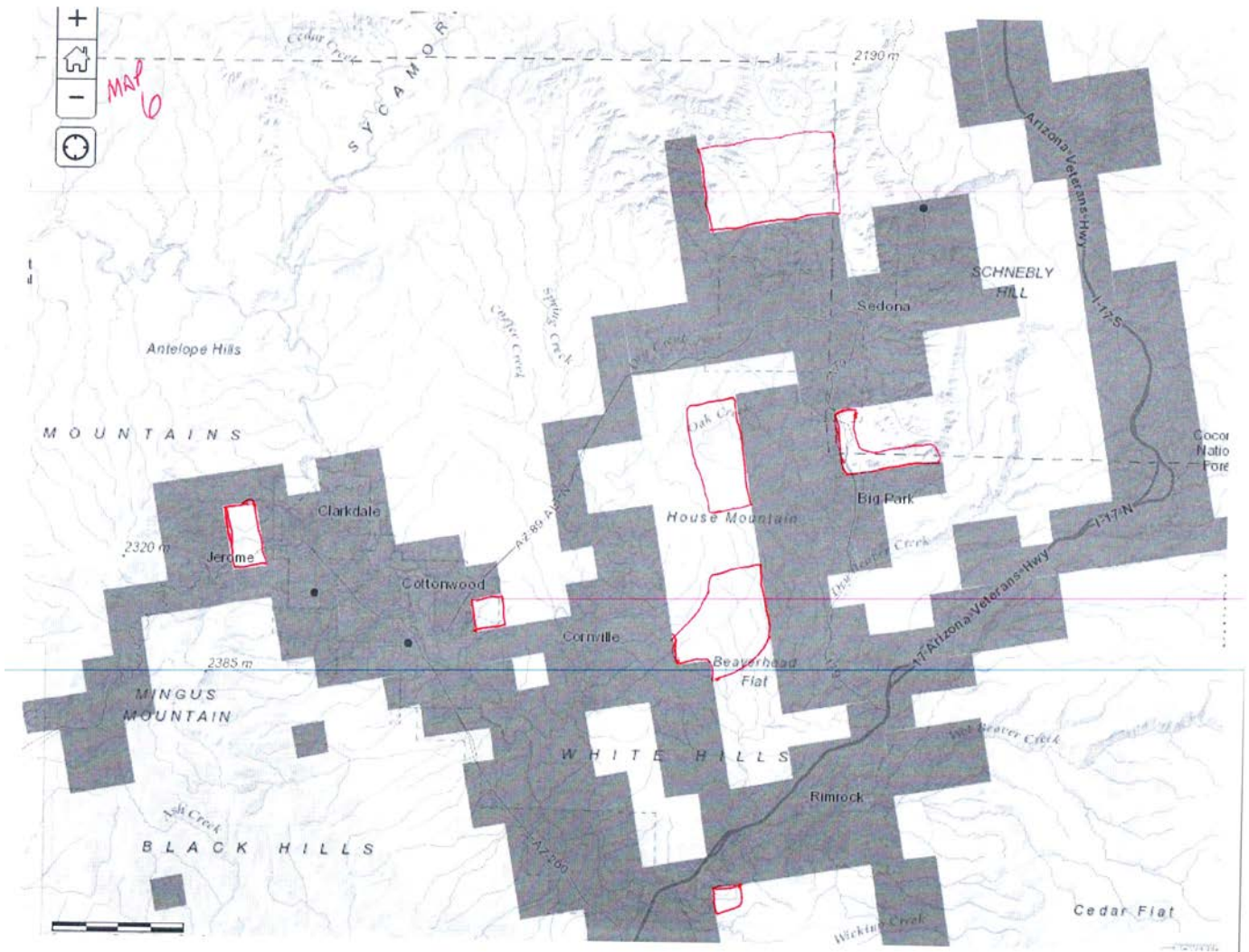


Image 17: Yavapai County "Map 6"

Solicitation No.  
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Image 18 represents Map 7 from Yavapai County. Areas outlined in red depict a need for coverage.

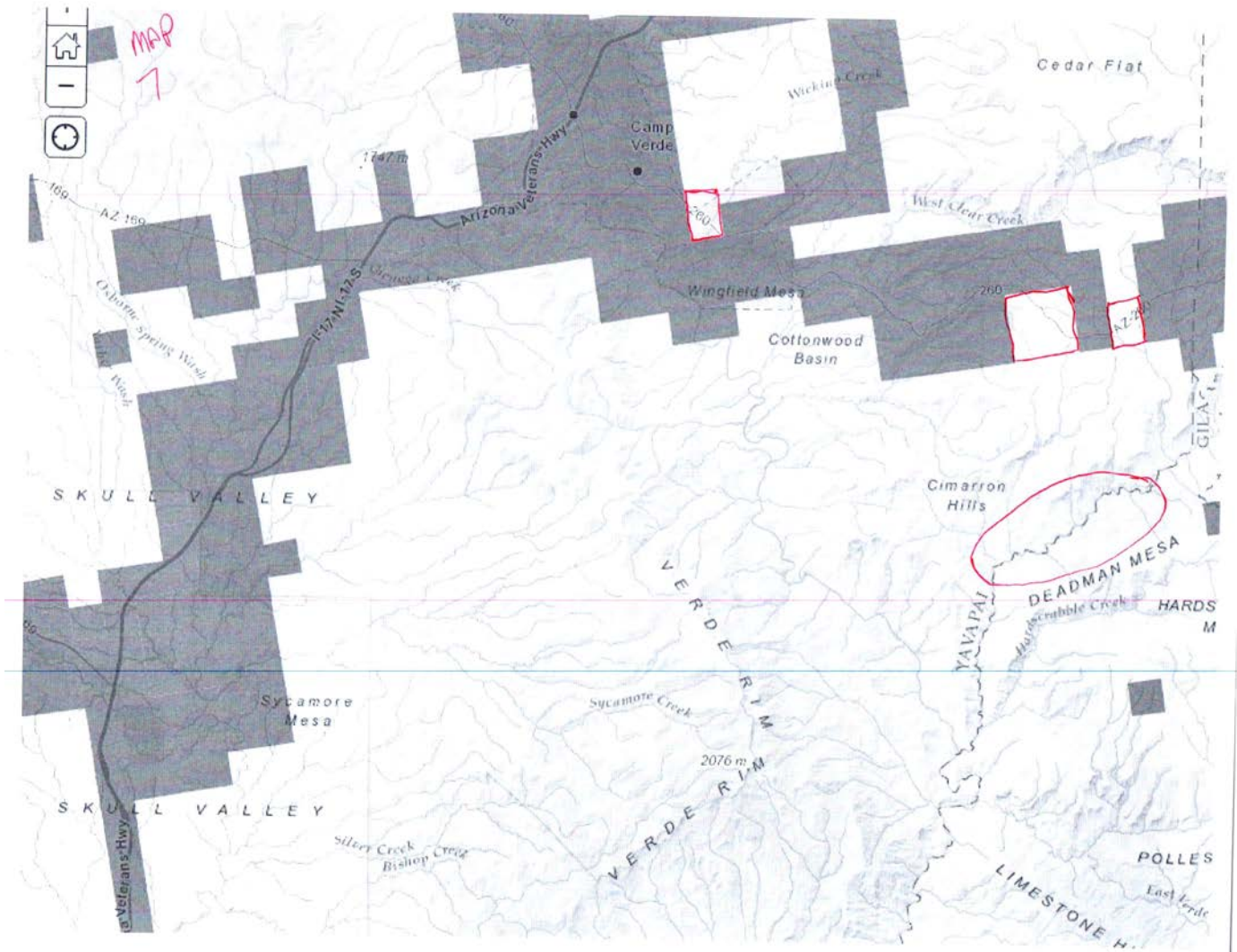


Image 18: Yavapai County “Map 7”

### 3.4.1. Major Highways

According to the Federal Highway Administration Route Log, Arizona is served by six Interstate highways (I-8, I-10, I-15, I-17, I-19 and I-40) with a total length of 1,168.64 miles. APSBN coverage of these highways is essential to fulfillment of the State's public safety mission.

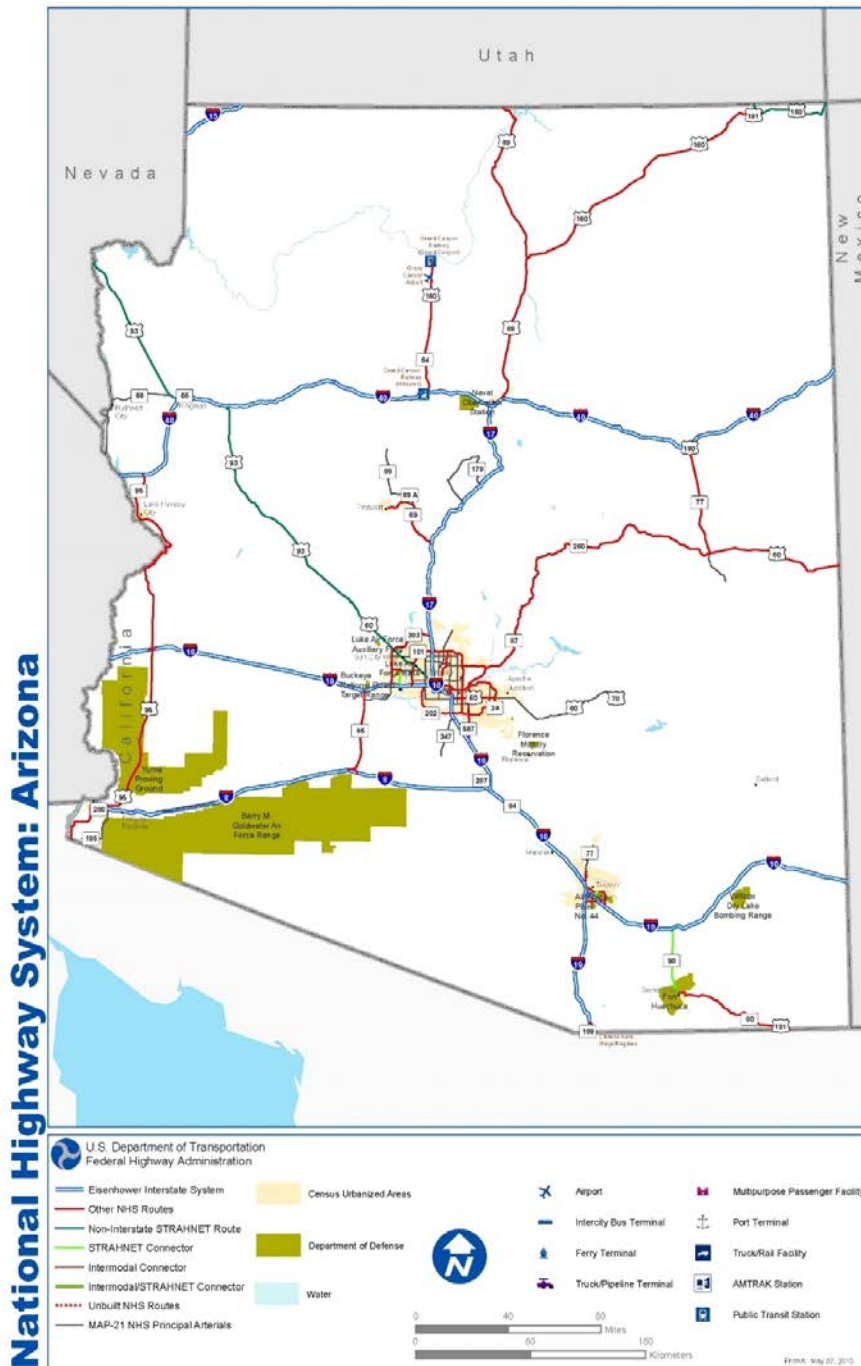


Image 19: National Highway System Within Arizona



### 3.4.2. Tribal Lands

Arizona is home to more diverse American Indian cultures than any other of the states. One-fourth of the total land area of Arizona is home to more than 20 reservations. Indian reservations are considered to be sovereign nations, with the authority to make and enforce laws of their lands. Tribal public safety entities will participate on the PSBN and coverage of their lands must be considered in the design of the Arizona network.

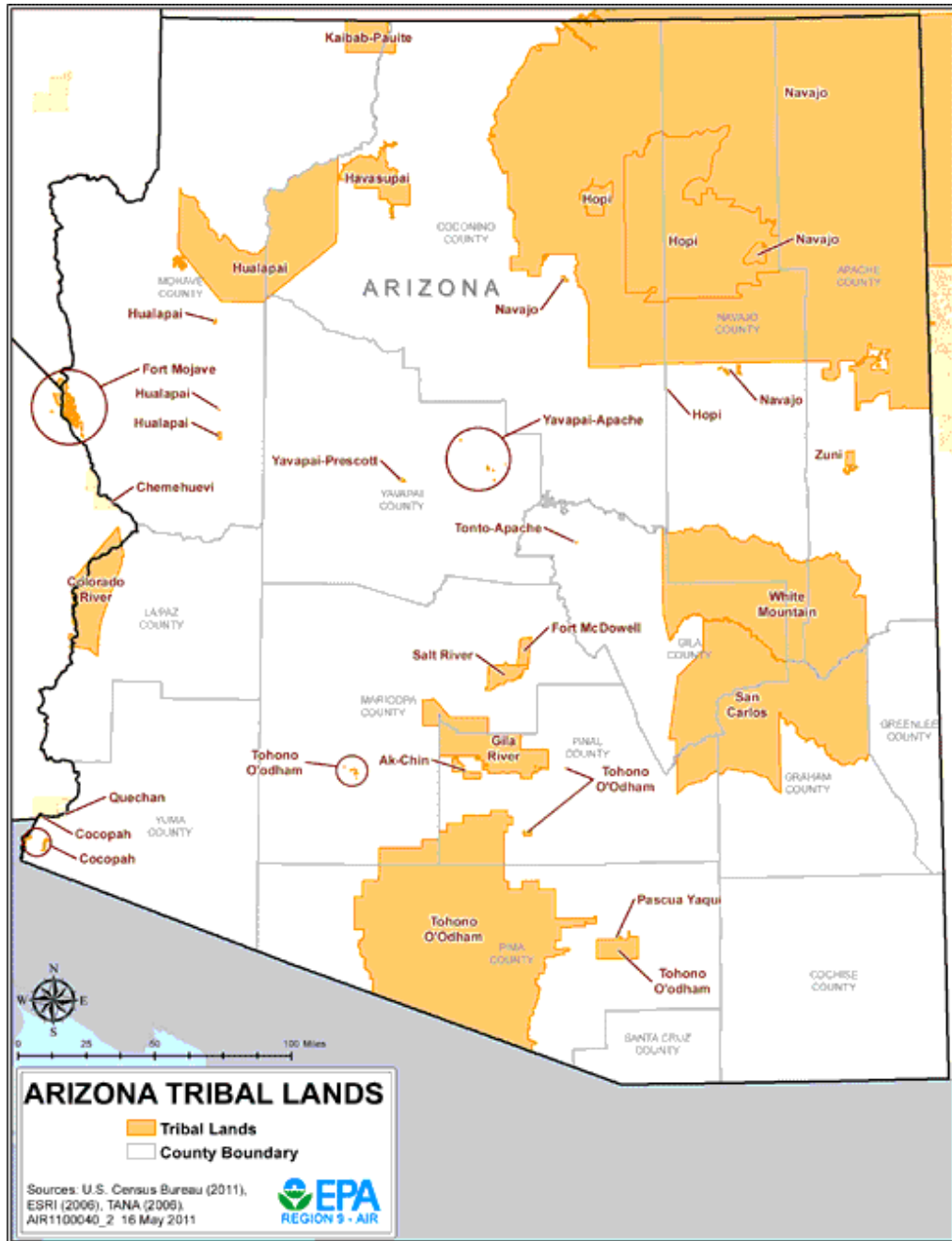


Image 20: Arizona Tribal Lands

### 3.4.3. Federal Lands

Large areas of Arizona are under Federal control for forests, parks, wilderness areas, military bases and other purposes. According to the Congressional Research Service publication “Federal Land Ownership: Overview and Data,” the Federal Government manages 28,064,307 acres of the total 72,688,000 acres of Arizona, or 38.6 percent.

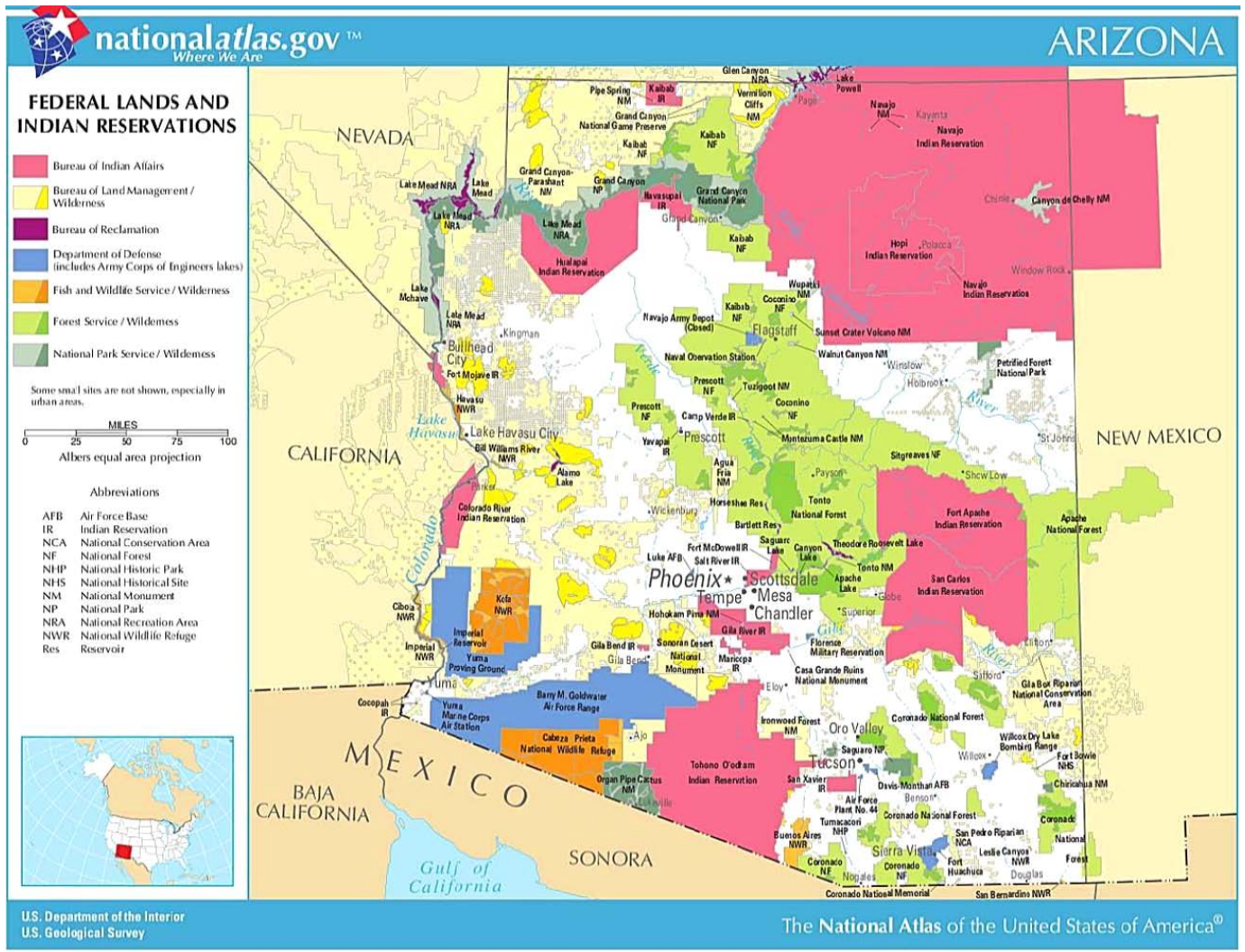


Image 21: Federal Lands

### 3.4.4. Topography

Arizona topography creates challenges for the provision of broadband wireless service. Interstate highways traverse both mountainous and desert terrain. Some population centers are in valleys between mountains. Access to mountains for antenna sites is heavily regulated on government-owned land which represents more than 38 percent of the land area of Arizona.

While population density is a decision factor, with many public safety response metrics such as CFS, number of public safety personnel, motor vehicle traffic, crime, and medical responses associated with the number of persons and vehicles in the area, it is not necessarily the most important factor. Arizona has vast areas of mountainous, desert, and forested areas that are popular vacation and tourist destinations.

Arizona Emergency Management estimates there are 600 SAR missions annually within the state to locate and assist persons who are lost, injured, stranded, or deceased in remote and, often, inaccessible terrain.



Image 22: Arizona Topography

### **3.4.5. Wildfire Operations Support**

Wildfires are a common occurrence in Arizona. Statistics from the Southwest Coordination Center, a multiagency organization that coordinates wildfire response in the southwestern states indicate that as of June 8, 2016, there have been 808 wildfires involving 106,229 acres. Many of these fires take place in remote and forested terrain and may require extensive mutual aid responses that sometimes last weeks.

On June 30, 2013, 19 firefighters tragically lost their lives while fighting a wildfire in a rural area near Yarnell, Arizona. Reliable communications are critical in coordinating the response to these fires. The APSBN provides a tremendous opportunity to improve those communications capabilities.

Access to information is essential from incident command locations as an important adjunct to wildfire suppression. Transportable RAN equipment will be a minimally acceptable solution, with coverage from the fixed network desirable in identified areas of the state. The ability to communicate with responders that are en route to an emergency or a staging area is an essential requirement for the PSBN.

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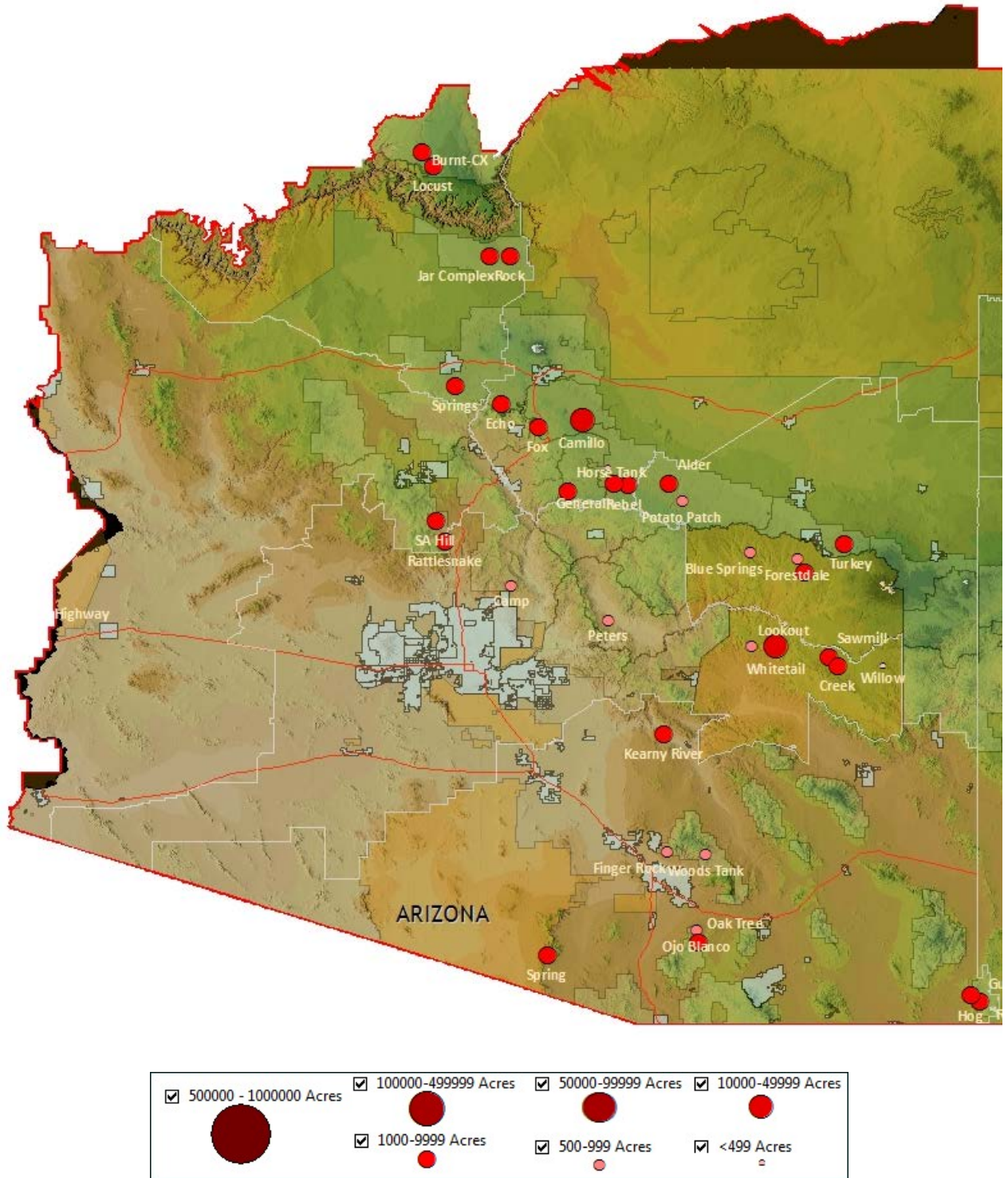


Image 23: Arizona Wildfire ICS 209 Map (2015)

### 3.4.6. Coverage Priorities

Survey respondents were asked to prioritize NPSBN coverage between urban, suburban, rural, critical infrastructure, and major highways. Respondents were asked to prioritize on a scale of 1 to 5, with 1 being least critical and 5 being most critical. Results were aggregated across all respondents and final average scores calculated. Chart 20 depicts the responses.

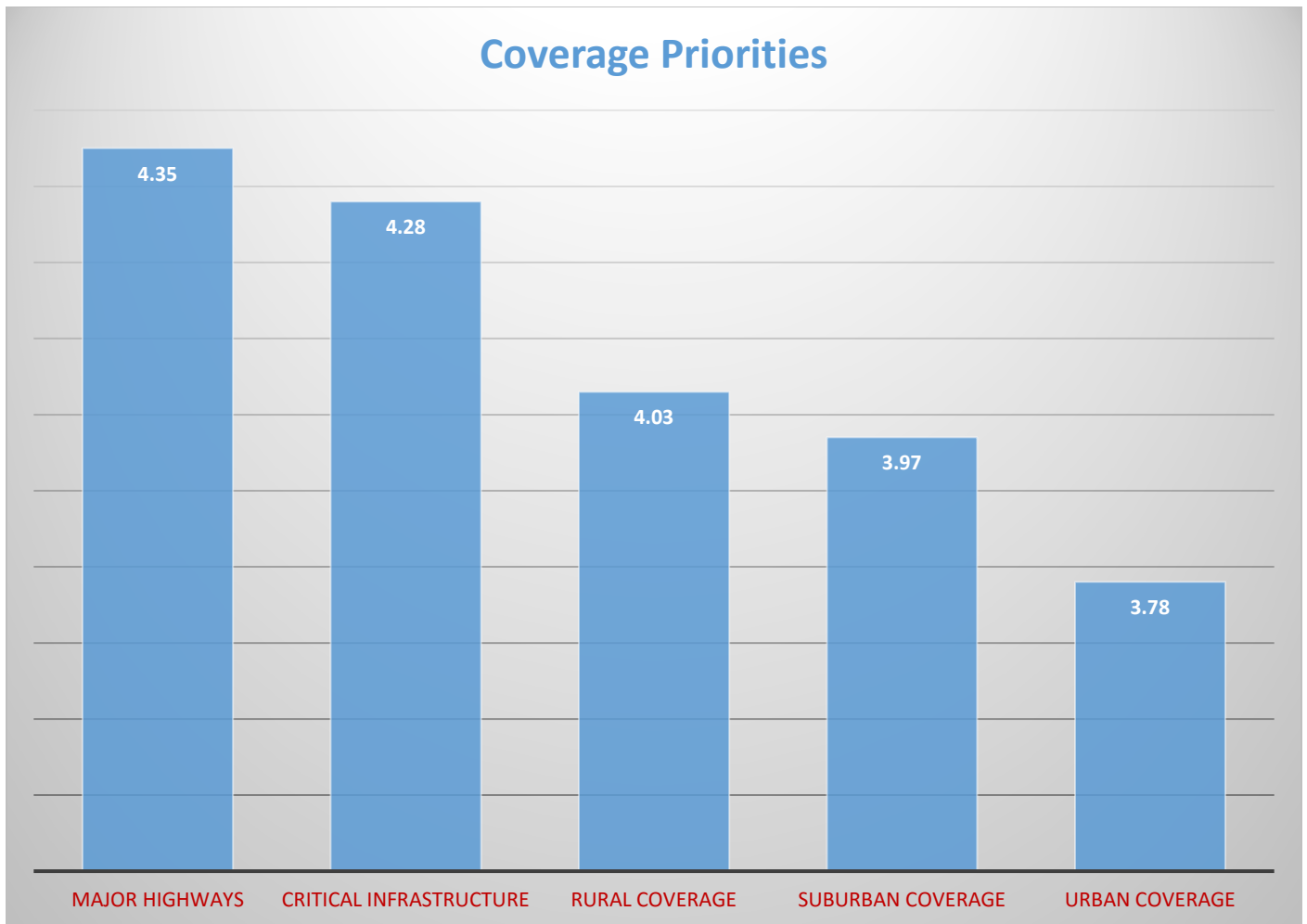


Chart 20: Coverage Priorities

As can be seen, coverage priorities identified by survey respondents, in priority order, were major highways, critical infrastructure, rural, suburban, and urban.

A. High Risk Areas

Arizona's two most significant high risk areas comprise the southwestern border with Mexico, and the northwestern area in Grand Canyon National Park and Grand Canyon West on the Hualapai Tribal Reservation.

The southwest border with Mexico presents numerous challenges from a public safety perspective. The Arizona-Mexico border is approximately 372 miles in length, including approximately 75 miles within the Tohono O'odham Nation reservation. Multiple agencies provide public safety services in the border region from all levels of government; interoperable communications is vital. The border provides multiple avenues for dangerous and illegal persons and substances to cross into the United States. Potential terroristic activities, human trafficking, and illicit drug smuggling are some of the major concerns for the border area.

The Grand Canyon National Park sees approximately 4.4 million visitors per year. Grand Canyon West on the Hualapai reservation sees over 1 million visitors per year. Due to the heavy tourist activities, these areas are viewed as extremely high risk from a public safety perspective. The potential for accidents is extremely high, necessitating SAR/recovery efforts. The areas also present potential "soft targets" for terrorist activities. APSBN coverage would provide opportunities to apply greater safeguards to protect the park and all of its visitors.

**B. Rural Coverage**

Rural coverage is a priority for the Arizona public safety community. Arizona has a vast amount of rural land that currently has limited or no public safety communications capabilities. These areas also have limited or no commercial communications capabilities. There are many components of Arizona's critical infrastructure situated in these areas, which creates a substantially higher risk for a public safety response. That efficiency of that response is greatly inhibited by the lack of adequate communications.

Additionally, every year these rural areas are the scenes of multiple wildfires. These fires in many cases spread quickly and threaten suburban or urban areas. The need to fight to extinguish these fires in the most expedient manner possible is critical to the protection of not only the thousands of homes and millions of acres of land they destroy, but also the lives they threaten in the populated areas. Effective and reliable communications is vital in these areas.

**C. Urban Area Coverage**

Urban coverage is anticipated to be comparable to current commercial cellular coverage, with similar coverage levels. The preferred level of coverage within urban areas is "in-building" coverage to the greatest extent possible.

**3.4.7. Coverage Mapping Requirements**

Coverage mapping shall be provided to the State for the cases of High Risk Areas, Rural Areas, and Urban Areas for vehicular-mounted user equipment (high- and low-powered), portable devices in-vehicle and on-street, and handheld devices (smartphones) in-vehicle, on-street, and in-buildings (6,15,

and 30 decibels [dB] penetration loss). Clutter and land use data shall be taken into account in these coverage predictions.

Coverage and capacity mapping shall be provided for deployment phases IOC-1-through 5 and the FOC as defined in FirstNet RFP J-8 Section F.4.2.2. Maps shall be produced for the state of Arizona and for the national roaming coverage provided by the Band 14 and non-Band 14 offering for roaming service.

## **4. Performance Expectations**

### **4.1. Network Availability**

Network availability shall be at least 99.99 percent on a rolling 12-month window as established by FirstNet; reference section 3.1.7 of this RFP.

Hardening of the network to public safety-grade is a primary requirement of the State. Public safety-grade is defined as the recommendations of the National Public Safety Telecommunications Council (NPSTC) in its report *Defining Public Safety Grade Systems and Facilities*<sup>14</sup>, dated 5/22/2014. To the greatest extent possible, the recommendations of the NPSTC report shall be applied to the APSBN.

### **4.2. Priority of Public Safety Communications**

Public safety communications shall have the highest priority on the APSBN. Proposers shall describe how that priority will be maintained during peaks of activity. Proposers shall describe methods of preemption of commercial traffic or other technology that will be implemented to provide dynamic shifts in priority to support emergency operations.

Static priority shall be set by the State and/or its public safety entities for users of the APSBN.

The Partner will be responsible for providing access to the APSBN Home Subscriber Server (HSS) node by the State or its public safety entities for the purpose of establishing static priority, among other user parameters.

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[http://www.npstc.org/download.jsp?tableId=37&column=217&id=3066&file=Public\\_Safety\\_Grade\\_Report\\_140522.pdf](http://www.npstc.org/download.jsp?tableId=37&column=217&id=3066&file=Public_Safety_Grade_Report_140522.pdf)



### **4.3. Capacity Requirements**

Network capacity should be predicated on the number of potential users throughout the state in the public safety community. Guidance for capacity planning has been provided Chart 15, Current and Desired Application Usage, and Image 19, Arizona Population Density. The survey reflects just under 50,000 potential users.

A fair estimate of potential public safety network users in Arizona is approximately 150,000; this takes into account not only primary first responder disciplines, but also those persons/entities with ancillary public safety duties such as transportation entities, public utilities, etc.

Additionally, assuming the network allows users to “bring their own device” for use on the network, 1.5 devices per person is reasonable according to current industry information.

## **5. Deployment and Acceptance**

### **5.1. Project Schedule and Performance Timelines**

The project schedule will be dependent on a decision to opt-out, if chosen, the time required to obtain approval of a plan to build and operate the APSBN, and approval of grant funds by NTIA.

Therefore, Arizona will follow the FirstNet IOC/FOC timeline<sup>15</sup> to the extent that it is achievable over a 4-year period, following all approvals, including an agreement with the Partner and appropriation of funds by the Arizona Legislature.

### **5.2. Final Network Design and Task Orders**

A task order process will be negotiated with the Partner, followed by a work authorization, and any change orders associated with the network deployment, expansion, and technology refreshment. The terms of such orders will be contained in an agreement between the State and the Partner to be negotiated should the State opt-out of the NPSBN.

The first task order to be issued will be for the final network design to be provided to the State in accordance with the schedule contained in the agreement between the State and the Partner. The final system design will be reviewed by the State and representatives of the public safety entities that will be participants on the network.

A final network design will be mutually agreed upon that will meet the coverage, capacity, and QoS required by public safety entities in Arizona.

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<sup>15</sup> <https://www.fbo.gov/utills/view?id=bc4a63534ebd1fd64cd01ff070f25603>

### 5.3. Phased Deployment

Arizona speculates that the deployment of the APSBN will be phased over a period of five years from contract award, in close approximation to the IOC/FOC timeline specified by FirstNet. Deployment of the network will be governed by coverage priorities, public safety entity demand, and strategic objectives of the State based on hazards, emergency response plans and protocols, and other factors.

### 5.4. System Acceptance

#### 5.4.1. General Acceptance Criteria

FirstNet has specified the general quality measures to be applied to each work product. The State intends to review all work products of the Partner against these measures.

**Accuracy** – Work products shall be accurate in presentation, technical content, and adherence to accepted elements of style.

**Clarity** – Work products shall be clear and concise. Any/all diagrams shall be easy to understand and be relevant to the supporting narrative.

**Consistency to Requirements** – All work products shall satisfy the requirements of this contract.

**File Editing** – All text and diagrammatic files shall be editable by the Government.

**Format** – Work products shall be submitted in hard copy (where applicable) and in media, unless otherwise specified herein. Hard-copy formats shall follow any specified directives or manuals. Media formats shall follow the mutual agreement of the parties unless specified elsewhere.

**Timeliness** – Work products shall be submitted on or before the due date specified herein or submitted in accordance with a later scheduled date determined by the Government.

#### 5.4.2. State Acceptance Criteria

In its agreement with the Partner, in addition to the general acceptance criteria, the State will outline system acceptance procedures that will be applied to the RAN. Factors that will comprise acceptance, and which will govern progress payments, include the following:

- Coverage – Band 14 system coverage of specified service areas as defined in this RFP; coverage will be based on achievable data rates on the cell edge within the coverage area
- Capacity – Testing of the network under conditions of simulated or actual high traffic and a measure of the RAN QoS
- Backhaul functionality and achievement of data rates
- Quality of installations – public safety-grade
- Standby power system functionality, fuel supply, installation
- Site monitoring and security functions
- Network management functions operational

- Administrative functions – asset management, inventory
- Billing interfaces functional
- Business systems; financial reporting operational and functional
- User equipment programming interfaces functional
- Application interfaces and functionality

## **6. Financial Model**

### **6.1. Financial Proposal and Payments**

Proposers shall provide a financial model outlining the 25-year partnership with the State that demonstrates the sustainability of the APSBN.

### **6.2. Monetization of Band 14 Capacity in Arizona**

Proposers shall provide a financial model that explains how their offer will provide the coverage, capacity, network connectivity, QoS, and other objectives within the scope of services described in this RFP while remaining self-sufficient through monetization of excess Band 14 capacity within Arizona and other revenue sources.

### **6.3. Capital Contribution by State and Grant Funds**

The financial model shall address capital expenditures made by the State from grant funds possibly received from NTIA SLIGP (Section 6302 of the Act). If the State opts-out and if its plan, which will be at least partially based on the proposal of the Partner, is accepted, the State will apply for a SLIGP grant. The regulations for this grant program have not been released as of this RFP and may not be available for a variety of reasons.

### **6.4. Capital Contributions by Partner**

Any additional capital contributions that may be required to be made by the Partner to facilitate construction and operation of the APSBN should be included in the financial model.

### **6.5. Fixed Network Construction Cost**

Proposers shall provide a cost for the construction of the RAN and backhaul network for the coverage area defined by the State. This coverage area is considered to be the baseline coverage area, and it is understood that further investment in the network may be needed to meet the needs of Arizona public safety entities during the contemplated lifetime of the network.

Proposers shall offer a method by which the network may be expanded in the future and/or which technology refreshment will be made to maintain compatibility with FirstNet. This method may include expansion of the Band 14 network in a manner that increases fees from monetization of excess network capacity and/or further investment by the State, local governments, or other entities to meet particular operating requirements.

Coverage solutions such as small cells or coverage through 5G devices (at such time they are available and compatible with the NPSBN) should be described and quoted.

### **6.6. Revenue User Subscription Fee Pricing**

The State intends that the monthly user fees for access to the APSBN will be maintained at the lowest practical level. Surveys of public safety entities within the state indicated price sensitivity, and fees are a potential hurdle to achieving maximum use of the network. FirstNet restricts states' application of user fees in an opt-out scenario to maintenance of the RAN. Proposers shall address the issue of user fees in their financial models as a component of determining the sustainability of the APSBN.

### **6.7. Monetization of Excess Band 14 Capacity in Arizona**

A basis for the financial plan to be submitted by Proposers should be the monetization of the use of the excess capacity of Band 14. Proposers should address the integration of the Band 14 infrastructure into a legacy LTE network(s) in order to provide service in the First Operational Configuration and subsequent configurations in a manner that both provides roaming services as well as providing an opportunity to optimize revenue, while preserving the integrity of the APSBN.

Proposers shall address in the financial plan the allocation of funds for operations and maintenance of the RAN and backhaul network, and the potential use of the backhaul network for transport of an ESInet for NG9-1-1.

### **6.8. Payments to FirstNet**

Some payments to FirstNet will be required to be made under the spectrum manager lease agreement. The terms and conditions of the lease agreement are presently unknown, as is the calculation of the payments for access to the FirstNet core infrastructure.

Proposers should consider the method by which such payments would be calculated and paid.

### **6.9. Warranties**

Proposers should describe warranties that will be applicable to the RAN, site improvements, backhaul network, or other equipment or software that will be the basis of the APSBN.

## **6.10. Operation and Maintenance of the RAN**

### **6.10.1. State Responsibilities**

The State, local government, and other public safety entities anticipate most activities associated with the operation and maintenance of the RAN will be performed by the Partner. Certain tasks, such as management of interoperability arrangements, authentication of users, setting of static priority, and activation and de-activation of subscriptions, may be performed by the State and/or other public safety entities. Proposers are asked to provide a description of how these services would be provided, and what systems will be in place to accommodate access by authorized personnel in the user agencies.

### **6.10.2. Partner Responsibilities**

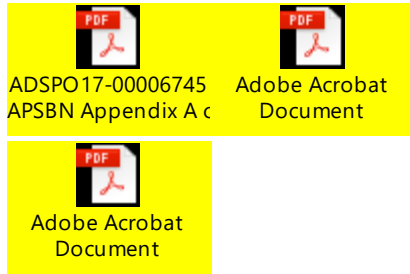
This RFP contemplates the selection of a Partner that will operate and maintain the RAN in Arizona. Proposers shall describe the services that will provide for 24-hours a day, 7-days a week priority response to network outages or service-interrupting events with a response time goal of two hours or less in urban areas and four hours or less in rural areas.

Network monitoring of the RAN shall be provided to the State at a location specified at the time a contract is negotiated. The State assumes that primary NOC service will be provided by the Partner. Proposers shall describe the NOC and associated systems that will provide network monitoring and alarms, service dispatch and notification to the State of outages, trouble ticket management, and generation of management reports related to network performance, availability, and related metrics. A description of the service organization that will perform these services shall be provided.

If the potential Partner is teamed with rural telecommunications providers in the state, a description shall be provided in the proposal of the operating procedures that will be implemented to create a single point of contact and response for network management.

Proposers shall describe the preventative maintenance schedule for the network, and a description of the services that will be provided to meet the operational availability objective of this project.

## Appendix A – ADSPO17-00006745 APSBN Contract Terms and Conditions



## **Appendix B – State Antenna Sites and Backhaul Assets and Backhaul Assets**

There is no single comprehensive inventory of antenna site assets owned or occupied by the State of Arizona. Information on towers that have been registered with the FCC is available at <http://wireless.fcc.gov/antenna/index.htm?job=home> and radio communications facilities licensed to the State of Arizona can be searched at <http://wireless.fcc.gov/uls/index.htm?job=home>.

There is no single comprehensive inventory of backhaul assets owned by the State of Arizona. Information regarding microwave routes licensed to the State of Arizona can be searched at the FCC Universal Licensing System site <http://wireless.fcc.gov/uls/index.htm?job=home>.

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## **Appendix C – Non-disclosure Agreement**

There is no requirement for a Non-Disclosure Agreement at this stage.

If you believe that your proposal contains confidential Information, the State requires a statement be submitted with the proposal detailing the reasons that the information should not be disclosed. Specifically, what information contained in the proposal do you believe to be a trade secret or otherwise proprietary? Additionally, please detail the reasons that the information should not be disclosed, including the specific harm or prejudice which may arise. Please keep in mind that, in accordance with A.A.C. R2-7-103, contract terms and conditions, pricing, and information generally available to the public are not considered confidential information.”

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## **Appendix DD – Qualification of Proposers**

Minimum qualifications of proposers shall include the items detailed below.

### Organization

Proposers shall demonstrate that the organization of the team lead has the capabilities, processes, experience, and tools to successfully implement a project of the contemplated scope.

Proposers shall demonstrate that its team members are fully committed to fulfilling the requirements of an agreement with the State. Written evidence of this commitment through teaming agreements, corporate authority to enter an agreement of the magnitude of the financial and operational commitment required, and an organizational chart that identifies the teaming relationship and reporting structure shall be submitted.

An organizational chart and description of the proposer's personnel and responsibilities that will be assigned to the partnership shall be submitted.

Qualification to do business in the state of Arizona for the proposer and its partners shall also be submitted.

### Operational History and Relevant Experience

Proposers shall provide written evidence of the operational history of the firm, years in business, types of businesses, and its ten largest customers.

Proposers shall provide a description of experience in performing contracts in the state of Arizona.

Proposers shall provide a description of relevant experience in PPPs or similar finance-design-build-operate contracts of the magnitude of the APSBN.

### Financial Capability and Stability

Proposers shall demonstrate the financial capability of providing working capital and other investment to the PPP. A description shall be provided of the source of funds that will be used for the initial network rollout, and for working capital purposes as the network is deployed and before break-even operations are achieved.

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Proposers shall demonstrate financial stability, and that of its key suppliers/operating team, through the provision of audited financial statements for the last three fiscal years. If the firm has a bond rating, the source and documentation of that rating shall be supplied.

If a proposer relies on an outside lender or equity partner for funds, that source shall be identified and financial data shall be provided that demonstrates the capability to fund the APSBN.

Wireless Network Operator Experience

Proposers shall be experienced in the operation of wireless networks of the size and complexity of the proposed APSBN. Such networks shall be commercial wireless networks employing 3G and/or 4G 3GPP standards-based technology.

A description of the experience in such operations shall be provided to the State. Included in this description shall be information related to support of public safety operations on the 3G or 4G networks.

Technology Partners

Proposers shall identify technology partners it will employ in the supply, provisioning, and operation of the RAN and backhaul network for the APSBN. The products that these partners shall supply should be identified.

Technology partners shall be financially stable and capable of delivery and service on products supplied for the expected lifespan of the network.

Technical Design Capability

If the State elects to opt-out, the selected proposer shall be responsible for the design of the RAN and backhaul network. Proposers shall identify and document experience, engineering licensure, capabilities, and software tools to be employed in the design process. A description of design experience of a minimum of three 3G or 4G 3GPP standard networks of the magnitude of the proposed APSBN shall be provided.

Sales and Marketing

If the State elects to opt-out, it will be the responsibility of the selected proposer to provide an interface to public safety entities in Arizona for the purpose of supplying user equipment on the APSBN. This function will require availability of user equipment, development of a fee schedule, establishment of a sales network, and educating public safety entities regarding the capabilities of user equipment.

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Proposers shall describe the sales and marketing team that will be assigned to the APSBN. Information shall be supplied on the location of sales personnel, accessibility by email, on-line ordering, or telephone. Customer support tools that will be employed to service orders and network access requests shall be identified and described.

Wireless Network – LTE – for Roaming Purposes

Proposers shall identify the existing LTE network(s) proposed for the initial operational configuration, and ongoing roaming service for the proposed APSBN. If roaming will require reverse compatibility with a 3G technology, the standard and version of that technology shall be specified.

User Equipment – Product Distribution and Support

Proposers shall identify the manufacturers or distributors of user equipment that will be offered to the State. Evidence of an agreement between the proposer and the manufacturer or distributor shall be provided to the State in the qualifications package.

Proposers shall identify any other entities that will provide support of the user equipment that will be supplied to the State. Information of the qualifications of these entities shall be provided to the State.

Administration and Billing Support

If the State elects to opt-out, the selected proposer will be responsible for billing Arizona public safety entities for access and usage of the APSBN. Proposers shall describe the administrative and billing support it will provide for this function. In particular, detail shall be provided about who will provide the administrative and billing support functions (whether provided as an integral part of the proposer's firm or whether this is outsourced in all or part to a third-party). The location(s) of account administration, customer service, and billing operations shall be provided. Information shall be provided about the experience and qualifications of any third-party that will perform these functions.

Information concerning any applications that will be employed in this service and the sources of these applications shall be provided.

Software Application Partners and Support

If the State elects to opt-out, the APSBN is intended to provide services to public safety entities that will improve first responder safety and increase efficiency in the provision of those services. Proposers shall identify any partners on its team that will be providers of software applications and the experience

and qualifications of those firms. Any system integrators or other parties that will be involved in the deployment of applications shall be identified.

### Network Operations

Proposers shall describe the network operations system that will be employed to monitor the proposed APSBN and its connection to the NPSBN. Any software applications that will be employed shall be identified. The provider and location of the NOC shall be identified. Qualifications and experience of any third-party firm that will be involved in staffing, operating, maintaining, and backing up the NOC shall be identified.

### Network Maintenance, Trouble Ticketing Processes, and Tools

Proposers shall identify the maintenance provider of the RAN, standby power supplies, backhaul network, and other components of the APSBN. If this service is provided by employees of the proposer, the responsible person (title) shall be provided and identified on the organizational chart submitted in the proposal.

If maintenance support is provided by a third-party, that firm shall be identified. Experience and qualifications of the firm, including references, shall be provided to the State.

### Screening of Personnel

Proposers shall comply with screening of all personnel to be assigned to the design, deployment, operation, and maintenance of the APSBN. Whether employees or contractors of the proposer, all persons shall comply with security screening including E-Verify, drug screening, and other background investigations as specified by the Arizona Department of Public Safety and/or FirstNet.

Proposers shall describe the process that will be in place for the duration of the PPP to ensure that sensitive public safety data is not compromised by the selected proposer.