MissionCriticalPartners
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State of Arizona
Broadband Focus Group Findings

Final Report

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FOR ARIZONA DEPARTMENT OF ADMINISTRATION

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Executive Summary

Mission Critical Partners, Inc. (MCP), in partnership with the Arizona Department of Administration (ADOA), developed this report of findings in advance of developing the *Arizona Statewide Broadband Strategic Plan* (Plan). This effort involved working with several partner entities, including the Arizona Corporation Commission (ACC), Arizona Commerce Authority (ACA) and the Arizona Department of Education (ADE). Additionally, MCP engaged current and past members of the Arizona Telecommunications and Information Council (ATIC) and the four regional Councils of Government (COG).

In today's world, access to high-speed broadband is a necessity, not a luxury. Information access provided by broadband is integral to education, health care, commerce, and just about every other facet of today's life. The primary outcome of this plan will be to ultimately ensure that all Arizona residents have access to this crucial technology. The plan will look to identify all gaps and hurdles inhibiting broadband deployment, and then to work with both middle-mile and last-mile providers to fill those gaps. One potential opportunity for access expansion is the deployment of the nationwide public safety broadband network (NPSBN) by the First Responder Network Authority (FirstNet) and its partner, AT&T. AT&T has specific rural deployment targets it must meet to fulfill its contractual obligations. The State of Arizona (State) will look to work with AT&T and other providers to deploy broadband to unserved and underserved areas of the state.

As part of the effort, MCP conducted six information-gathering community focus group meetings with relevant stakeholders across Arizona, to collect valuable input about broadband in rural communities. The focus groups allowed stakeholders to share the challenges and limitations their communities face due to limited or inconsistent access to broadband capabilities.

During the focus groups, stakeholders also shared their perspectives on:

- The current state of broadband in their communities
- Their vision for the future of broadband, what might affect achieving that vision, and strategies for overcoming obstacles
- The desired capabilities and features of broadband service
- Best practices implemented in other states to bring broadband to rural communities
- Priorities to address in the Plan

Focus group feedback will assist MCP in identifying gaps and developing the requirements in support of the Plan. Common themes and key discoveries quickly emerged across the focus groups, including:

- Improve accessibility to broadband
  - Add additional community anchor sites outfitted with broadband capabilities
  - Eliminate carrier strangulation by diversifying the vendor marketplace, offering multiple providers from which to choose
- Treat broadband like a public utility instead of a private service
- Identify a state-level "owner" for managing the statewide expansion of broadband
- Engage high-level leadership to champion the statewide expansion of broadband

- Establish standards that require broadband providers to deliver a minimum level of service
- Improve the affordability of broadband while delivering a standard level of service
- Improve the speed of broadband connections
- Improve redundancy and resiliency so that there is no single point of failure
- Determine what infrastructure and capacity already exists
  - Develop a common operating picture of existing infrastructure to include the location of dark fiber already in place
- Identify a strategy for leveraging grant funds across disciplines (public safety, health, education) to focus efforts holistically on broadband expansion, and to break down siloes
- Eliminate regulatory barriers to expanding broadband services

These themes will be validated and further refined during the upcoming Joint Strategic Plan Working Session (Session) with select stakeholders. Feedback during the Session and any subsequent information-gathering efforts will enable MCP to develop a future-looking and holistic Plan. The Plan will help communicate a vision and priorities for Arizona's broadband "ecosystem," and provide a measurable roadmap for progress in providing broadband to rural Arizona. Leveraging the Plan will help develop guidelines for providing broadband in anchor institutions and ultimately to residents of rural Arizona, will provide context and understanding for stakeholders, and will drive decision-making based on the prioritized needs of the stakeholder community.

This report is not a technical document, rather it is a representation of the information provided by stakeholders during the focus groups. This report is intended to serve as a springboard to further conversation for building a strategic plan that can advance broadband in Arizona.

Stakeholders are tired of planning. It has been ten years and they are tired of talking—it is time for action.

1 Background

In 2012, the Digital Arizona Council (DAC) completed an enormous undertaking in drafting a *Statewide Strategic Plan for Digital Arizona*, which included strategic goals and recommendations that would leverage broadband connectivity to transform education, health care and research, improve public safety and government operations, and create new opportunities for business and enable long-term sustainable economic development. However, circumstances at the time resulted in it not being adopted.[1] The 2012 plan included draft strategies for reducing barriers to broadband development, incentivizing or otherwise encouraging vendor investment in infrastructure, and fostering public-private partnerships to resolve capacity issues in rural areas.

That same year, former Arizona Governor Jan Brewer signed into law the Digital Arizona Highways Act. This landmark law was designed to incentivize private-sector investment in deploying middle-mile fiber-optic infrastructure alongside Arizona's highways in rural communities. While the law still stands, the plan failed to move forward and appears to have had little to no impact on expanding broadband.

In 2017, with a State of Arizona (State)-adopted plan for expanding broadband in the state still absent, Governor Doug Ducey recognized the continued critical need for broadband for those living in rural Arizona:

"We need to make sure all Arizona kids are prepared for the 21st century. Many Arizona public schools are leading the nation when it comes to science and technology. But too many students, specifically in our rural areas, and in our tribal nations are missing out. It's 2017, but outside of our urban areas, broadband is still spotty. Let's fix this, by connecting to high-speed internet. Let's break the firewall and get connected."

Encouraged by Governor Ducey's statement, the Arizona Department of Administration (ADOA) contracted with Mission Critical Partners, Inc. (MCP) to engage stakeholders and interested community members from rural areas, and to renew the State's focus on broadband strategic planning for rural Arizona.

Successful implementation of the strategic objectives and metrics in the developing *Arizona Statewide Broadband Strategic Plan* (Plan) will result in the ability of Arizona citizens to:

- More easily access broadband at speeds equal to national averages in rural areas
- More consistently access resilient and consistent broadband services
- Choose broadband services from a variety of providers, ensuring that no individual vendor monopolizes the market and pricing

This report summarizes the information identified through stakeholder engagement efforts.

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[1] DAC AZ BSP Alternative Viewpoints Section Draft 02_01_13. This document is intended to address the diverse points of view that surfaced during the DAC Broadband Strategy Task Group process, in discussion at DAC meetings, and with the engagement of numerous stakeholders throughout most of 2012.

2 Approach

Working closely with ADOA, MCP held one meeting with broadband providers and five focus group meetings with relevant stakeholders across Arizona, to collect valuable input about broadband in rural communities.

The six sessions took place as follows:

- Broadband Provider Meeting
  - Scottsdale – June 29, 2017
- Focus Group Meetings
  - City of Payson/Gila County – July 27, 2017
  - City of Prescott/Yavapai County – October 11, 2017
  - City of Douglas/Cochise County – October 13, 2017
  - City of Kingman/Mohave County – October 16, 2017
  - Town of Parker/La Paz County – October 17, 2017

Not including ADOA staff and MCP facilitators, 131 participants attended the six sessions, with strong participation from the broadband service provider and education communities.

Leading up to the five focus group meetings, the ADOA met with broadband providers to better understand their positions and collect input that would improve the chance of implementing a sustainable solution that accelerates or transforms economic growth, education, health care and business in Arizona. The State requested the providers' assistance with identifying areas in the state in need of broadband middle-mile and/or last-mile infrastructure. They also requested collaboration with infrastructure and service providers to reduce duplication of infrastructure and to develop strategies for reducing costs to Arizona communities. Most importantly, the State requested that providers submit data regarding the location of their fiber networks. Despite one or two providers saying that they would provide their data "tomorrow" and challenging their counterparts to do the same, as of the writing of this report, only five providers have submitted their data to the State for use in this project.

For the five focus group sessions, ADOA and MCP invited participation from a variety of stakeholder fields to include: education, health care, government operations, economic development, industry, and others with an interest in rural broadband. Invitations to participate were transmitted through established email distribution groups, the ADOA, and through direct engagement with several stakeholders.

Each focus group session began with some background on the effort to date, an overview of the First Responder Network Authority (FirstNet) and the nationwide broadband communications network for first responders that it is implementing, and a brief introduction that focused on the project goal and tasks, as well as level-setting about the Plan's purpose. The majority of the two-hour session was focused on gathering stakeholder input using a series of questions designed to elicit their thoughts on broadband availability. The questions were as follows:

- If you could have one thing happen as a result of the broadband planning process, what would that be?
- Based on your experience, if you assigned a grade for the current state of broadband (regionally or at the state level), what grade would you give it (A – F) and why?
- What is your vision for the future of broadband in Arizona?
  - What are the constraints to achieving that vision?
  - How could we overcome those constraints?
- What should the primary strategic initiatives in the plan be?
  - What should the plan do?
  - What components of broadband should it address?
- What features/capabilities/technologies do you want to see as a result of improved broadband? In what timeframe? How can the state help?
- What initiatives are you involved in and what stage are they at? How are you funding them?
- What commercial/government approaches to efficient implementation and management of similar initiatives are you aware of?
- Who else should we engage?

Notes taken at each focus group session were used to identify themes and initiatives for use in developing the *Arizona Statewide Broadband Strategic Plan*.

In addition to the focus group meetings, the State has been working with FirstNet since 2012 in planning for the deployment of the nationwide public safety broadband network (NPSBN). One of the areas of concentration for the planning effort is to ensure that the NPSBN is deployed in rural parts of the state. AT&T has rural deployment milestones incorporated into its contract with FirstNet, and its current deployment plan does call for rural deployment. The State will continue to work with FirstNet/AT&T through the NPSBN planning effort to drive further broadband deployment in unserved and underserved areas.

3 Capabilities and Challenges

Stakeholders who actively participated in the focus group sessions provided candid input on the urgency of the problem and exhibited a fundamental desire for action and progress, especially after the 2012 effort failed.

3.1 Current State of Broadband in Rural Arizona

Although very subjective, participants were asked to assign a grade to the current state of broadband in Arizona. Most participants chose to grade their local or regional experience with broadband. Grades varied by region, as follows:

Table 1: Grades by Region

Meeting Location	Range of Grades	Average Grade
Cochise County	B to D-	C- or D+
Mohave County	B to F	C
Town of Parker	C to F	C-
Gila County	D to F	D-
Yavapai County	C to F	D

When asked to grade the current state of broadband statewide, grades ranged from “C” to “D-” with an average grade of a “D.”

Stakeholders qualified these grades based on a variety of factors, including:

- Lack of consistent and resilient broadband service, speed, and access to a variety of providers from which to choose
- Better broadband coverage in major cities or towns, and worse to no coverage further outside cities and towns
- High cost for poor service, especially when comparing Arizona’s rural connectivity with that of other states

Most participants had a negative opinion about state and local broadband in Arizona, but with valid reasons. Grades generally were higher in cities because broadband typically is more accessible and reliable; meanwhile, grades were lower in rural areas where there is inconsistent (or no) service and/or a lack of diverse vendors/service providers from which to choose, and because users pay higher costs for slower service.

3.2 Vision for the Future of Broadband in Rural Arizona

Each of the focus group participants offered a vision for the future of broadband in rural Arizona:

- Broadband must be resilient, reliable, and affordable
- Broadband providers must provide a minimum level of service
- Rural and urban areas must have the same level of service
- Broadband must be seen as a public utility or essential service, like water and electricity, mail delivery, or construction and maintenance of a highway system
- The state must establish a single office to coordinate statewide broadband coordination, buildout and delivery

- Provider monopolies must be dismantled, and citizens should be able to select from a variety of providers
- Arizona must leverage and combine funding across disciplines (e.g., education, public safety, health care), and break down funding siloes to deliver adequate rural digital capacity

Many participants saw broadband as an essential service or utility that should be managed by a public—not private—entity. This theme resonated across the state. In that vein, participants believed the initiative needed a clearly defined state-level owner/office responsible for coordinating between local public stakeholders representing education, public safety, health care, individual citizens, elected officials, economic development entities, and private broadband providers.

3.2.1 Constraints to Achieving the Vision

Of the many constraints to achieving the vision, participants identified one in particular as the biggest obstacle: *the reluctance of broadband providers to invest in building out infrastructure in rural communities.*

Participants believe that providers are resistant to building out broadband infrastructure in rural areas because there is not enough of a return on investment (ROI) for the provider; i.e., not enough customers who would subscribe to broadband services to generate revenue for the provider to make a profit.

Other constraints to achieving a shared vision for broadband in rural Arizona are as follows:

- Lack of infrastructure (dark fiber) and/or an understanding of where it exists
- Lack of affordability
- Repeating what did not work when trying to implement the failed 2012 broadband initiative
- Lack of legislative support
- Cumbersome regulation barriers; right of way access; permitting requirements
- Lack of vendor/provider competition, so they control pricing
  - High costs of service that cannot be socialized or justified
- Generational and socioeconomic gaps in the desire to adopt and implement “new” technology
  - Areas with aging or poorer populations may not demand the same services as younger or more affluent communities
- Siloed funding sources across local, state, and federal programs and disciplines (e.g., health, education, public safety) that cannot be combined to use for a collaborative broadband solution
- High expectations of the public and local leaders that are unrealistic; some areas in the state may never see affordable broadband
- The E-Rate[2] program, which can be difficult and time consuming to navigate, and has limited staff to process all of the applications

[2] E-**Rate** is the commonly used name for the Schools and Libraries Program of the Universal Service Fund, which is administered by the Universal Service Administrative Company (USAC) under the direction of the Federal Communications

- Potential turf wars over control between private and public sectors, or at the State level, regarding which government office should manage a statewide broadband initiative
- Geographic issues: impacts of topography and weather, and distance between consumers
- Resistance of Tribal Councils to grant rights-of-way to build out infrastructure on tribal lands
- Lack of middle-mile coverage

3.3 Objectives for the Statewide Strategic Broadband Plan

Focus group participants helped identify the following objectives for inclusion in the Plan. They include:

- Acknowledge the geographical, resource, and technology diversity across the state and that there may not be a universal solution, only a best solution
  - If possible, implement broadband as a utility with universal, statewide connectivity
  - If universal statewide connectivity is not realistic, set baseline standards for speed, price and percentage of the state's population that will have access to broadband
- Identify, learn from, and use best practices from other states engaged in similar buildouts
- Develop one state-level authority—i.e., a Broadband Office—to oversee statewide broadband implementation
- Develop local consortiums of stakeholders—representing local jurisdictions, economic development entities, education, business, citizens, public health and public safety—to help govern the effort
- Develop a map showing where communications services exist and what they provide
- Address funding for a statewide broadband initiative
- Leverage FirstNet and E-Rate
- Address the middle mile to provide redundancy

3.4 Current Broadband Initiatives

Focus group participants identified several existing local, regional, state, and federal initiatives and projects that target the provisioning of broadband in rural areas. They include:

Table 2: Broadband in Rural Areas

Location	Broadband Initiative
Apache County	• Leveraging E-Rate to bring another infrastructure provider into the area to improve connectivity
Cochise County	• The Cochise County College is using microwave to deliver education between campuses

Commission (FCC). The program provides discounts to assist schools and libraries in the United States to obtain affordable telecommunications and Internet access.

Location	Broadband Initiative
	• Ongoing E-Rate initiative to support schools and libraries
Coconino County	• Ongoing E-Rate initiative to support schools and libraries
Education	• Arizona Education Broadband Initiative
Gila County	• Copper Corridor
Hospitals	• Using microwave to provide broadband connectivity (12-18 months out)
La Paz County	• Egg farm put fiber in at its own cost, because provider would not do it due to the cost • Ongoing E-Rate initiative to support schools and libraries
Libraries	• Libraries let residents check out mobile hotspots • The State Library is working on a pilot project, in partnership with other community anchor institutions, regarding the deployment of television white space technology to increase Wi-Fi access in the community. This is part of a Digital Inclusion project for the community.
Navajo County	• An E-Rate request for proposal (RFP) is pending to support the schools' and libraries' broadband initiative • Health department, schools and libraries meet with the chief information officers (CIOs) of health care entities and the college to coordinate efforts through a consortium
Tusayan	• Installing Wi-Fi devices on school buses and parking them in strategic areas
Yavapai County	• Ongoing E-Rate initiative to support schools and libraries
Yuma County	• Smart Borders Program
Other	• Arizona Universal Service Fund – Broadband Special Construction Matching Fund Program

To promote an efficient implementation, the participants identified other regions and states that have assumed a management role and are leading the broadband deployment effort. As just a couple of

examples, New Mexico[3] has formed the New Mexico Broadband Program under the Office of Broadband and Geospatial Initiatives, and New York[4] has developed the New York State Broadband Office, to which the state contributed funds through a three-stage process to entice vendors to deploy broadband to unserved and underserved areas. Participants identified the following examples of local, regional, and state government approaches to oversight and implementation of a broadband initiative:

Table 3: Region and State Broadband Initiative Examples

Approaches to Oversight and Implementation
• Blacksburg, Virginia – This city, which is home to Virginia Tech University, has broadband in every household as a municipal utility
• Iowa – Built infrastructure and then leases it to carriers
• Next Century Cities – Amon, Idaho – This municipality built its own fiber network to cover 16,000 homes. As a result, end users pay less per month.
• Kentucky Wired • Metro Chicago • Oregon Project South Carolina

In addition to the New Mexico and New York programs previously mentioned, the National Governor's Association also provides a list of State Broadband Offices that include:

Table 4: List of State Broadband Offices

State Broadband Offices	
Alabama Office of Broadband Development	Minnesota Office of Broadband Development
Connecticut State Broadband Office	North Carolina: Broadband Infrastructure Office
Maine: ConnectME Authority	Utah Broadband Outreach Center

[3] http://www.doit.state.nm.us/broadband/
[4] https://nysbroadband.ny.gov/

State Broadband Offices	
Massachusetts Public Safety Broadband Office	Wisconsin State Broadband Office

Other known initiatives include:

Table 5: List of Other Broadband Initiatives

Other Broadband Initiatives	
• Connect America Fund and the Alternative Connect America Model (A-CAM)	• Google is working with local partners to bring more families in public housing online via Gigabit Internet for $0/month
• Department of Agriculture—USDA Rural Development – Community Connect Grants – Distance Learning and – Farm Bill Broadband Loans and Loan Guarantees – Telecommunications Infrastructure Loans and Guarantees	• Microsoft through the Connect Americans Now (CAN) alliance wants to bring rural Americans—including Arizona—online by 2022
• Department of Commerce – Economic Development Administration	• National Digital Inclusion Alliance (NDIA)
• Education Digital Super Highway	• Rural Health Care Program
• FirstNet	• Smart Cities

3.5 State Assistance

When asked how the State could provide assistance in acquiring broadband services, participants indicated the following:

- Provide oversight and coordinate local champions into a single voice with legislators
- Put pressure on key providers
- Bring other carriers into the mix to stimulate competition
- Facilitate streamlining of the permitting processes across state and federal lands
- Engage the Arizona Corporation Commission (ACC), which helps balance the cost of public service utilities with the utility's interest in earning a fair profit

3.6 Additional Input

Participants were asked to identify additional stakeholders or stakeholder groups to contact as part of this planning effort; they suggested reaching out to groups or individuals as follows:

- Councils of Government (COGs)
- Commerce Authority/Chambers of Commerce
- Better Business Bureau
- Arizona Corporation Commission
- State Legislature
- County Managers and Supervisors
- United States Conference of Mayors
- Arizona Association of Counties
- Arizona County Supervisors Association
- League of Arizona Cities and Towns
- Federal government entities (Fort Huachuca, Department of Homeland Security, U.S. Customs and Border Patrol, U.S. Immigration and Customs Enforcement)
- Tribal governments
- Native Tribal Telecommunications Association
- Education and health institutions and associations (Superintendent of Schools, Arizona Rural Health Board, North Country Healthcare, Arizona Rural Schools Association)
- Utility services and co-ops (Valley Telecom, Rural Utility Services)
- E-Rate representatives at the federal level

4 Overarching Themes

Common feelings and perspectives quickly emerged during the focus group sessions that can be organized into three primary themes: Accessibility, Oversight/Implementation, and Funding.

4.1 Accessibility

- Broadband is not accessible unless it is affordable
- Establish standards that require providers to deliver a minimum level of broadband upload and download speeds
- Improve redundancy and resiliency so that there is no single point of failure
- Eliminate geographic boundaries between haves (urban) and have-nots (rural)
- Create a business case for enticing broadband providers to invest in building out infrastructure in rural communities
- Add rural community anchor sites outfitted with broadband capabilities
- Diversify the marketplace of broadband providers, preventing provider monopolies and increasing affordability

- While most of the conversations concerning broadband middle-mile infrastructure revolves around fiber-optic cables, it may also be feasible for rural deployments to consider wireless broadband middle-mile connectivity via microwave radio links. Microwave does not provide the bandwidth and speeds seen in fiber, but it may provide a much less expensive alternative in rural areas until fiber build out reaches them.
- Deployment of the NPSBN by FirstNet also may provide opportunities for rural communities to leverage that infrastructure for accessing high-speed wireless broadband capabilities.

4.2 Oversight and Implementation

- Identify a State-level entity for managing and overseeing the statewide expansion of broadband
  - Establish a consortium, task force, executive steering committee or working group of diverse stakeholders to help with regional and multijurisdictional collaboration and planning
- Treat broadband like a public utility instead of a private service
- Determine what infrastructure and capacity already exists
  - Develop a common operating picture of existing infrastructure to include the location of dark fiber already in place
- Ensure education, outreach, and transparency around statewide broadband implementation initiative
- Seek public/private partnerships to build out infrastructure to extend the reach of tax dollars

4.3 Funding

- Break down funding siloes across sources and stakeholder groups, to more effectively and holistically work together to address the rural broadband effort
- Identify funding opportunities beyond grant sources
- Provide grant and funding source training

5 Conclusion

Six meetings brought together a diverse group of stakeholders to provide input on broadband availability and challenges in Arizona. The stakeholder sessions provided ADOA with unfiltered feedback that was organized into overarching themes, which will be used to develop the *Arizona Statewide Broadband Strategic Plan* by February 2018.

In support of the Plan development, MCP will conduct a Joint Strategic Plan Working Session on January 11, 2018, with select stakeholders to validate the findings in this report, review the following documents for relevance, and craft the framework of the Plan, including vision, goals, objectives, initiatives and metrics:

- *Arizona's Strategic Plan for Digital Capacity (2012)*
- *DAC AZ Broadband Strategic Plan Summary Draft (2012)*
- *DAC AZ BSP Alternative Viewpoints Section Draft (2013)*

- *The State of Broadband: Broadband catalyzing sustainable development (2017)*

Following the working session, MCP will craft the content and present the draft Plan, and then submit it to the working group for review and comment before a final version is submitted to the State.