ACA 2022 Arizona Broadband Development Grant

Rio Verde Wireless Project Proposal

Project Narrative

Part 1: Project Description and Timeline (Required)

A. Project Introduction

Rio Verde Wireless is requesting a grant of [redacted] from the Arizona Commerce Authority's (ACA) Arizona Broadband Development Grant (ABDG) Program to finance the deployment of state of the art, high-speed wireless broadband infrastructure in Maricopa County, Arizona (The Project). The infrastructure investments proposed in this application will significantly expand and upgrade Rio Verde Wireless' internet service offerings in Carefree, Scottsdale, Rio Verde, Fountain Hills, and Fort McDowell reduce prices for consumers, and provide essential services to households, businesses, and anchor institutions within the Yavapai Nation Reservation. We estimate that, within 24 months of a successful grant agreement with the ACA, a total of 5,000 households, businesses, and anchor institutions will be served by the new high-speed network (The Network). We are specifically requesting an ABDG-Urban grant, though the proposed service areas that are outside the heavily populated areas of downtown Scottsdale.

The COVID-19 pandemic has forever changed the way in which people learn, work, and care for one another. Access to affordable high-speed internet connectivity has become a critical service that is essential for employees, businesses, schools, and health providers alike. The transition to the post-pandemic normal of remote life has not been easy for anyone, but for those without access to high-speed, reliable internet connection, whether it be because of the cost of existing service or a lack of infrastructure, the effects of the pandemic were two-fold. Poor or non-existent internet connection determines, to a large extent, one's ability to succeed. Considering these realities, Rio Verde Wireless applauds the Governor's decision to utilize federal funds to invest in the expansion of broadband infrastructure and close the digital divide for Arizonans.

Enhancing connectivity for Arizonan citizens, businesses, and anchor institutions is an urgent goal that requires quick, cost-effective, and high-performing solutions. In accordance with the goals of the ABDG program, this proposal is designed to expand high-speed internet service (up to 200 download/100 upload) to customers at affordable prices on an accelerated timeline. We estimate that the new network will be available to customers within 6 months of project commencement.

B. Description of the Partnership

Rio Verde Wireless has partnered with Airspan Networks (Airspan), Aviat Networks (Aviat), and Simplified IT Solutions to facilitate the development of The Project. Rio Verde Wireless will serve as the lead applicant, manage The Project, operate The Network, and fulfill all grant reporting requirements. Construction and installation activities will be performed by Eagle Northwest Construction and Rio Verde Wireless. IT services will be performed by Simplified IT Solutions. Rio Verde Wireless commits to operate and maintain The Network for a minimum of 5 years upon completion of the improvements, as required by the NOFA.

Table 1 provides a summary of the entities participating in this proposal:

Table 1: Project Participants

[redacted]

Rio Verde Wireless is a fixed wireless broadband internet service provider (WISP) based in Rio Verde that has been providing outstanding customer service and a wide variety of internet service packages to residents of North Scottsdale, the Rio Verde Foothills, Cave Creek & Fort McDowell since 2006. Currently, 811 customers in these areas depend on Rio Verde Wireless' affordable, reliable, and high performing service to enable applications relating to communication, work, health, and education. Rio Verde Wireless is a proud participant in the Affordable Connectivity Program (previously the Emergency Broadband Benefit Program), an FCC benefit program that provides discounts on internet service for certain in-need households.

We provide more detail on the qualifications of our vendors, including Airspan and Aviat in section 2 of this application.

C. Description of the Improvements and Their Impact on Arizonans

If approved, The Project will deliver significant benefits to individuals, households, businesses, and anchor institutions within the service areas relating to service performance, availability, and affordability.

Service Performance

Americans' connectivity needs have changed drastically since the FCC defined high-speed broadband as 25/3 Mbps in 2015. In 2022, most consumers require speeds higher than the FCC threshold to enable a variety of applications, including streaming, workforce software, and educational tools. The wireless equipment utilized in The Project will deliver network performance with fiber speeds, at a vastly lower cost than fiber. The new service, called Rio Premier, can offer download speeds of up to 200 Mbps.

Service Availability

The Project will extend coverage to parts, or all, of 20 census tracts across three areas: in Carefree, Scottsdale, Rio Verde, Fountain Hills, and Fort McDowell, including the Yavapai Nation Reservation. According to the 2020 U.S. Census, 88,446 people reside in the census tracts. A complete list of the census tracts is provided in Section 7, along with service area maps.

We estimate that, by the end of the 24-month performance period, our new service offering will attract up to 2,000 customers in Carefree/Scottsdale, 1,000 Customers in Rio Verde/North Scottsdale, and 2,000 customers in Fountain Hills and Fort McDowell, including 411 customers in the Yavapai Nation Reservation.

The proposed infrastructure upgrades will also positively impact Rio Verde Wireless' ability to expand coverage long after the 24-month project performance period. For example, (pending land and tower approvals) Rio Verde Wireless aims to eventually expand coverage to other underserved areas in the region, including census tracts in Cave Creek (6107, 304.02) and New River (6105).

We analyzed data from the NTIA's Indicators of Broadband Need map to gauge internet accessibility and performance in our proposed service areas. However, many experts in broadband accessibility have raised concerns about the accuracy of our national broadband internet availability maps. In September of 2021, the GAO released a report entitled *FCC Is Taking Steps to Accurately Map Locations that Lack Access* that concludes, in part, that broadband data provided to the government by providers often overstates service availability and performance.

Table 2 displays the census tracts that are covered (in part, or wholly) by the Project, their population per the 2020 census, and the availability/performance of internet service to their residents.

Table 4: Service Availability and Performance in Proposed Census Tracts

Service Area	Census Tract	Population	% Without Access	Ookla Median Speed	Ookla Median Speed
Carefree	304.01	4882	4.80%	90.92	10.16
Scottsdale	2168.22	4448	3.70%	90.35	10.42
Scottsdale	2168.4	4775	1.70%	116.04	21.23
Scottsdale	2168.41	4355	2.00%	103.2	20.83
Scottsdale	2168.42	3461	1.30%	99.43	28.4
Scottsdale	2168.51	4593	2.50%	108.83	18.8
Scottsdale	6132	3762	0.70%	31.86	9.59
North Scottsdale, Rio Verde	101.02	5592	3.10%	86.31	10.58
Rio Verde, Troon North	2168.29	5320	0.70%	91.51	10.44
Rio Verde, Troon North	2168.43	3592	1.80%	110.68	13.36
Rio Verde*	101.03	3779	5.70%	38.78	9.59
Rio Verde*	101.04	2989	5.70%	38.78	9.59
Fort McDowell	9412	1152	26.40%	22.29	10.67
Rio Verde	9807	N/A	N/A	N/A	N/A
Fountain Hills	2168.56	2819	7.00%	99.22	9.93
Fountain Hills	2168.57	4673	7.00%	99.22	9.93
Fountain Hills	2168.19	6020	3.60%	100.15	10.21
Fountain Hills	2168.2	4356	7.10%	74.37	9.71
Fountain Hills	2168.21	5952	5.40%	90.42	10.01
Fort McDowell	9413	6334	20.30%	46.78	23.16

Service Affordability

The Rio Premier package created because of The Project will simultaneously bolster Rio Verde Wireless' product catalogue with a fiber-level service option and deliver valuable savings to customers of Rio Verde Wireless' other products.

Table 3 displays the 6 internet service packages Rio Verde Wireless currently offers to customers:

Table 3: Rio Verde Wireless' Current Products

Package	Max Download Speed	Max Upload Speed	Price/Month
BB Extreme	100	25	[redacted]
Soho Enhanced	80	20	[redacted]
Soho Standard	60	20	[redacted]
Soho Basic	50	20	[redacted]
HS Enhanced	25	10	[redacted]
HS Standard	10	2	[redacted]

Upon completion of The Project, Rio Premier will take the place of *BB Extreme***,** which offers speeds of up to 100/25, as Rio Verde Wireless' fastest service offering. Customers within Rio Verde Wireless' current service area, as well as those covered by the geographic expansion of The Network, will be able to purchase Rio Premier for $124.95 per month – the current price of BB Extreme. [redacted] HS Standard, which offers speeds of up to 10 /2 will no longer be offered to customers, and customers who currently pay for that service will be upgraded to HS Enhanced at no additional cost. All current Rio Verde Wireless customers will have the option to upgrade, without additional cost, to the internet service package that assumes the price point of their current plan. Additionally, the Project will allow Rio Verde Wireless to offer more bandwidth in every tier at the same monthly price to customers.

Table 4 displays the internet service packages Rio Verde Wireless will offer to customers as a result of this proposal:

Table 4: Rio Verde Wireless' Product Catalogue After the Project

Package	Max Download Speed	Max Upload Speed	Price/Month
Rio Premier	200	50	[redacted]
BB Extreme	150	50	[redacted]
Soho Enhanced	100	25	[redacted]
Soho Standard	75	25	[redacted]
Soho Basic	40	20	[redacted]
HS Enhanced	20	10	[redacted]

The impact of ACA's investment in The Project would be transformative for Rio Verde Wireless, as well as the communities we serve. By investing in wireless infrastructure that will deliver network performance with fiber speeds, the ABDG program will increase competition, speeds, and consumer choice, and also deliver cost savings to Arizonans in the proposed service areas, regardless of whether or not they purchase the top package.

<u>Support from the Fort McDowell Yavapai Nation</u>

This grant proposal was developed with the support of the Fort McDowell Yavapai Nation, a 950-member Native American Tribe located on a 40-square mile reservation in Fort McDowell. Yavapai Nation has agreed to utilize the network throughout its reservation, particularly in its destination businesses and anchor institutions. A Letter of Support from the Yavapai Nation can be found in the *Letters of Support* section of the application.

Yavapai Nation and its businesses, people, and anchor institutions will receive numerous immediate and future benefits from The Project. Several destination enterprises managed by the Yavapai, including the Eagle View RV Resort, the We-Ko-Pa Resort, Golf Club, and Conference Center, Tribal Farms, the Fort McDowell Farm, and the Fort McDowell Casino will be served by The Network and receive its numerous benefits. For example, The Network will improve tremendously the Fort McDowell Casino's ability to reliably provide entertainment to a larger number of patrons. The connectivity provided to Eagle View RV Resort, in which visitors sometimes reside for weeks at a time, will enable visitors to use their devices as they would at home. The Tribal Farm, which must consistently content with drought-like conditions, the network will enable the usage of advanced water conservation hardware, irrigation systems, and sensors to improve efficiency and conserve resources.

Essential educational, health, and safety services provided by Yavapai Nation to its people will also be upgraded by The Project. The Wassaja Memorial Health Center, an outpatient health care facility, will be able to utilize the new network to improve telehealth services and monitoring, while allowing health providers to properly utilize advanced analytical devices. Students and teachers within Yavapai Nation's education system will benefit from The Network through improved opportunities for remote learning, and device usage in the classroom. Lastly, the

Project will support Yavapai Nation's plans for future economic development projects by continuously attracting businesses and visitors.

D. Project Timeline

The Project's work timeline detailed below is our best estimate, considering the effect of supply chain constraints, labor shortages, and inflation on our industry. If macroeconomic circumstances change between January 31st and (if approved), final negotiations with ACA, we will bring those circumstances to ACA's attention and adjust our estimates accordingly.

Network Design and Equipment Purchases [redacted]

Project participants will finalize the network plans through additional detailed design processes. Technical specifications developed for the Proposal will be confirmed during a five-day site visit following the award announcement, and all outstanding details will be finalized.

Project participants will finalize negotiations with vendors and place orders for all equipment necessary for the project. Supply chain issues make estimating the time required for the phase of the Project difficult, but we estimate that it will take up to [redacted] to receive the equipment.

Construction and Configuration [redacted]

Eagle Northwest Construction and Rio Verde Wireless are responsible for all construction activities in The Project. After the equipment is received and the network design is finalized, Eagle Northwest Construction and Rio Verde Wireless will work to install all PtMP access points and PtP links. It could take up to 2 days to install each PtP link, and 2 weeks after installation, it will be necessary to test and optimize direction and configuration. It could take up to 1 day to install each PtMP access point and 1 week after installation, it will be necessary to test and optimize direction and configuration.

Market Research [redacted]

Rio Verde Wireless will work to identify which homes, businesses, and anchor institutions within the proposed service areas are interested in the new service. During this period, we will also reach out to our existing customers to let them know about how the Project will enable them to upgrade their current service.

Final Testing [redacted]

After completion of construction and configuration, Rio Verde Wireless and Airspan Networks will conduct final testing to ensure proper network performance and reliability.

Service Launch [redacted]

Rio Verde Wireless aims to launch the new service within [redacted] of project start. New customers will have their CPE installed by Rio Verde Wireless. CPE Installation can be completed within 1-hour.

Gradual Rollout of Service to Customers 18 Months

Rio Verde Wireless aims to rollout service to an estimated 5,000 new customers over the course of 18 months. Rio Verde Wireless will include data on service rollout progress in its ABDG program quarterly and yearly reports.

E. Cash Match

Sources and Uses

The total eligible costs associated with the Project are [redacted]. Rio Verde Wireless' request for [redacted] in ABDG funding represents a commitment by the project participants to provide [redacted] of the Project cost as a cash match. A letter of commitment regarding the cash match is attached in the *Letters of Commitment* section of this application, and the commitment is binding in all circumstances.

Rio Verde Wireless, with the support of its vendors, will contribute [redacted] to the Project through support for equipment, supplies, and service purchases.

Need for Program Funding

This proposal was created by Rio Verde Wireless, Airspan Networks, and Aviat Networks, in consultation with community members, in direct response to the goals of the ABDG program. We view this program as a rare opportunity to significantly upgrade our infrastructure, deliver a better service to customers, and lower costs for our community. Considering the capital expenditures necessary to the success of the Project, an absence of ADBG funds would prohibit Rio Verde Wireless from proceeding with the Project within the same time frame and scope. Opportunities like ABDG make it feasible for providers of our size and footprint to make critically important upgrades for our current and future customers.

Part 2: Project Description and Timeline – Development (Required)

F. Nature and Scope of the Project

Rio Verde Wireless will utilize grant funds to deploy Mimosa by Airspan's unlicensed spectrum (5 and 6 GHz) point-to-multipoint (PtMP) system, and Aviat Network's 18 GHz point-to-point (PtP) system to significantly expand and upgrade Rio Verde Wireless' service availability in Carefree, Scottsdale, Rio Verde, Fountain Hills, and Fort McDowell, including the Yavapai Nation Reservation.

G. Qualifications of the Vendors and Contractors

Airspan Networks & Mimosa by Airspan

Airspan Networks is a U.S. based provider of groundbreaking disruptive software and hardware for 5G networks and a pioneer in end-to-end Open RAN solutions. Airspan provides 5G indoor and outdoor, Open RAN, and private networks solutions for enterprise customers and industrial use applications, fixed wireless access (FWA), and CBRS solutions. Current CEO of Airspan Eric Stonestrom has led the company since its founding. The company was founded in 1998, and currently employs 800 people worldwide. Airspan is headquartered in Boca Raton, Florida, and has offices in London, Tel Aviv, Mumbai, and Tokyo. Airspan is backed by a plethora of well-respected investors including SoftBank, Qualcomm, Dish, Jio, and Foxconn. In August 2021 Airspan Networks Holdings began trading on the New York Stock Exchange under the ticker symbol MIMO.

Mimosa Networks, a division of Airspan, is the global technology leader in wireless broadband solutions, enabling service providers to connect dense, urban, and hard-to-reach rural homes at a fraction of the cost of fiber. Mimosa access, backhaul, and client solutions are deployed in a hybrid-fiber-wireless architecture, and engineered for both PtP and PtMP connections, across a variety of diverse applications including residential and business high-speed internet access, surveillance, public safety, education, and hospitality networking. Mimosa's technology delivers unprecedented levels of cost-effective spectral efficiency, allowing scarce spectrum to be concurrently and reliably

Aviat Networks, Point to Point Map

[redacted]

Census Tracts

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