



Broadband Whole Community Connectivity

2018 Report

Governor's Office of Science,
Innovation & Technology



Brian L. Mitchell, Director

Jojo Myers Campos, Broadband Development Manager

WHOLE COMMUNITY CONNECTIVITY

Rural Nevadans face many challenges due to lack of adequate business, home, and mobile broadband coverage. Business leaders in Elko County describe difficulties processing sales transactions. Community leaders in Ely discuss losing the opportunity to hire an orthopedic surgeon for William Bee Ririe Hospital because the doctor found



inadequate options for home broadband service. Finally, parents describe the difficulties children at the Austin School in Lander County have in keeping up with their on-line assignments due to a lack of broadband speeds and outages.

Leaders in rural counties have unanimously expressed that they lack the subject matter expertise necessary to seek improved broadband access in their communities. City of Elko Mayor Reece Keener put it best when he stated at the 2018 Nevada Economic Development Conference that, “Without subject matter expertise assisting the City of Elko and Elko County, increasing broadband options would be very difficult, if not impossible.”

These stories and the lack of local expertise have led the Governor’s Office of Science, Innovation, and Technology (OSIT) to engaged consultants from E-rate Central, a national leader in building community connectivity, to assist in developing and implementing Whole Community Connectivity programs tailored to unique rural communities across rural Nevada. The goal of OSIT’s Whole Community Connectivity Program is to attract better broadband options to these rural communities by implementing a phased “Whole Community Connectivity” strategy. To date, OSIT has partnered with six Nevada counties and municipalities. These counties and municipalities are seeking enhanced broadband infrastructure investments in their regions and better, more cost-effective, and reliable broadband service for the public sector, businesses and citizens.

WHOLE COMMUNITY CONNECTIVITY

By working with OSIT through the Whole Community Connectivity program, these communities have already achieved additional broadband options for their businesses, government facilities, and community anchor institutions (schools, libraries, healthcare providers). With sustaining work, guided by OSIT, these improved broadband options will scale to the anticipated future need, rather than being a one-time improvement. As a result, citizens and businesses in these rural counties will be able to:

- ✓ Help rural Nevadans take advantage of telemedicine resources across all health specialties.
- ✓ Help rural Nevada students of all ages and levels attain higher levels of education and access specialized on-line training in needed skill areas.
- ✓ Help businesses increase markets for their business products and services.
- ✓ Add superior broadband access to the many attributes that contribute to rural Nevada's high quality of life.

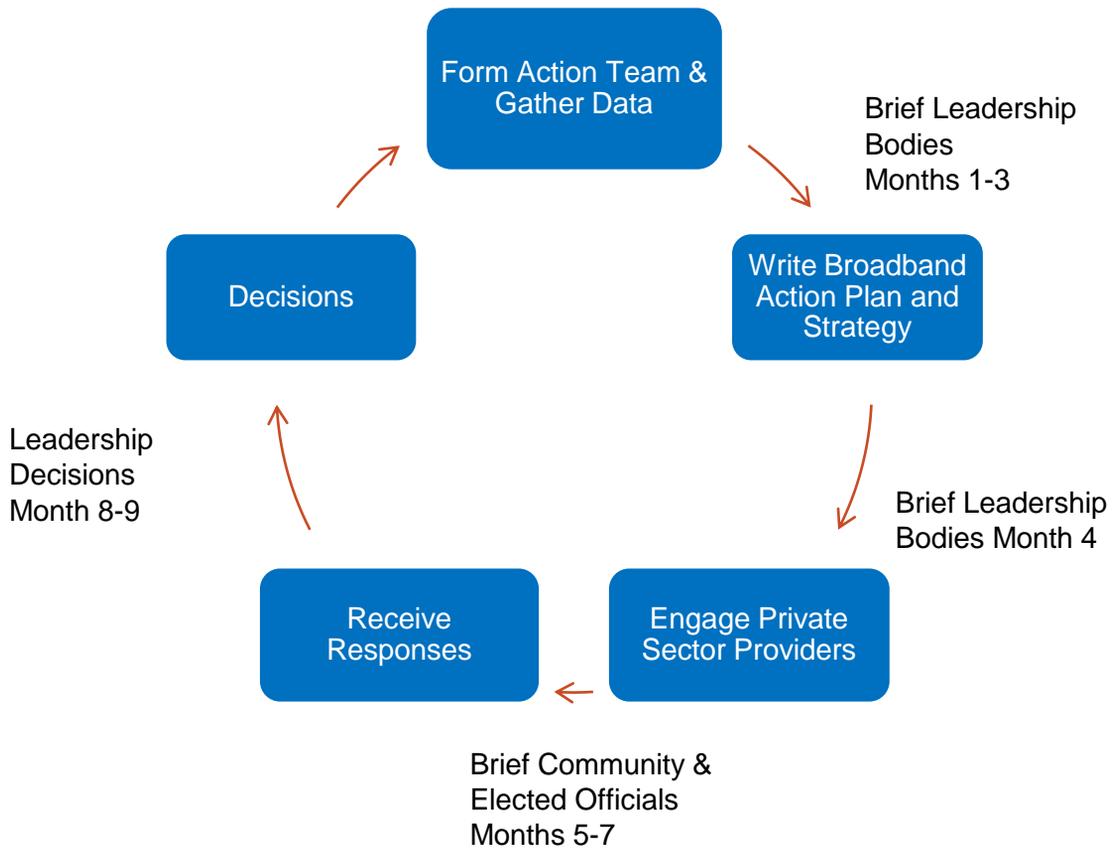
“Without subject matter expertise assisting the City of Elko and Elko County, increasing broadband options would be very difficult, if not impossible.”

- City of Elko Mayor Reece Keener

WHOLE COMMUNITY CONNECTIVITY PROGRAM DESCRIPTION

OSIT's process for community broadband planning is depicted in this diagram:

The Broadband Planning Process



5 STEPS

The Whole Community Connectivity Program process involves 5 steps:

1 Formation of the Broadband Action Team and Data Gathering

- a) Recruit elected officials, business leaders from all industry sectors, Public sector leaders from education, transportation, public health and economic development, and interested parties to serve on Broadband Action Team (BAT)
- b) Survey residential and business users
- c) Analyze planned road and other public works construction projects
- d) Inventory community broadband assets – fiber, conduit, buildings, land, co-location facilities
- e) Survey Community Anchor Institutions for current service and future needs (K-12 and higher education, libraries, healthcare)
- f) Search Connect America Fund (CAF) allocations

2 Statement of broadband connectivity needs, statement of strategic approaches to meeting these needs are summarized in a broadband playbook. The broadband playbook includes:

- a) Market demographic summary
- b) Business and residential survey results
- c) Technical specifications for broadband needs in lower density areas of the community
- d) Technical specifications for broadband service gaps in higher population density areas
- e) Government broadband service needs

3 Engage Service Providers/explore options

- a) Investments in public/private partnerships considered
- b) Investment in open access networks considered

4 Receive Responses from service providers/construction companies/financing partners

5 Make decisions

- a) Elected official bodies make resource allocation decisions
- b) Owning entity grants access to existing resources (fiber, co-location space, poles, building attachments, land)

Results to-date and future plans

OSIT began engaging with counties and municipalities in December, 2017. The Whole Community Approach has gained momentum in all six communities where OSIT has begun the process. The original plan was to target three communities in years one and two, consisting of Elko County, White Pine County and Pershing County. However, because the need for better broadband in rural Nevada is so great and based on the progress being made in the original three counties, three additional counties/municipalities enlisted the assistance of OSIT and the State E-rate Team, doubling the team's commitment: Humboldt, Mesquite, and Austin.

A detailed summary of activities in each community is contained in the table in appendix A. Highlight activities in each community as of 12/31/18 area as follows:

County / Municipality	Begin date	Meetings	Chairperson	Major Accomplishments
Elko County	12/6/17	5	Reece Keener, Mayor, City of Elko	<ul style="list-style-type: none"> -Facilitated City approval for lease of City-Owned dark fiber -School district new wide area network. Included 50,000+ feet of new, open-access dark fiber. -2 added service providers for business; included 10Gbps options for the first time -Expressions of interest from 4 service providers regarding introducing or improving service
White Pine County/ Ely	12/5/17	4	Caroline McIntosh, Community Leader	<ul style="list-style-type: none"> -Broadband Playbook drafted -Coordinated School District, Tribal and Charter School RFPs -Promoted use of planned new conduit -Improved wireless service in Ely and McGill

Results to-date and future plans

County / Municipality	Begin date	Meetings	Chairperson	Major Accomplishments
Humboldt County	7/18/18	3	Abel del Real-Nava Assistant County Manager	-Coordinated School District RFP for rural schools and libraries -Broadband playbook and strategy document drafted
Pershing County	7/19/18	3	Heidi Lusby-Angvick, Pershing County Economic Development and Justin Abbott, County IT Manager	-Coordinated tribal, schools, library system and county broadband RFPs - Broadband playbook and strategy drafted
Mesquite	8/23/18	2	George Gualt, City Council Member, Mesquite	-Opened dialog with companies able to provide an alternative upstream path to Las Vegas (biggest issue)
Austin	9/18/18	2	Committee is selecting	-Coordinated Library and school RFP

SURVEY RESULTS

Sample Broadband Survey Results

An accurate reflection of the gravity of the lack of broadband access in rural Nevada is evident in the residential and business broadband survey results.

The survey results from Elko County are particularly compelling:

Business Survey Results (146 responses):

Demand for improved service is high and satisfaction with current service is very low. A recent survey of broadband demand among businesses found the following:

1. 73.7% of businesses in Elko County are very dissatisfied or somewhat dissatisfied with the service provided by their current broadband provider.
2. 93% of businesses in Elko County reported they desired to upgrade their current broadband service. 79% showed a desire to have connections greater than or equal to 100 Mbps.
3. 72% of businesses in Elko County reported they experienced buffering delays either daily or weekly.
4. 99% of Elko County businesses expressed that it would be a wise investment for Elko County government to undertake efforts to attract better broadband service to the region.

Residential Survey Results (1180 responses):

1. 76% of Elko County residents are either somewhat or very dissatisfied with their current broadband service.
2. 86% of Elko County residents experience buffering of their broadband connection, frequently while watching streaming video.
3. 96% of Elko County residents are interested in faster broadband service.
4. 99% of Elko County residents expressed that it would be a wise investment for Elko County Government to undertake efforts to attract better broadband service to the region.

CONCLUSION

The Counties and Municipalities currently engaged in the Whole Community Connectivity Program are ahead of schedule and have already begun to see tangible improvements in broadband service in 2018. Responses to school district, library, healthcare, and government RFPs will be received in the first half of 2019. This will result in deployments of improved or new broadband infrastructure in 2019 and 2020. OSIT will continue to engage with this first set of counties/municipalities to make certain that these communities realize the immediate and long term benefits of the improved infrastructure.

The OSIT team will also begin to invite more communities to begin participation in the Whole Community Connectivity process. The OSIT team's work in Douglas County, Carson City, Mineral County, and Gerlach, NV (Washoe County) has provided a solid foundation to launch the Whole Community Connectivity process in these locations in 2019.

The Whole Community Connectivity process is ongoing. As with other key infrastructures, the Counties and Municipalities involved Whole Community Connectivity process have realized that permanent standing committees to address broadband are as important as those that address water, sewer, transportation, and electrical power generation. OSIT has expressed interest in being an on-going resource to assist these counties/municipalities.

“OSIT, led by Jojo Myers-Campos, has provided Humboldt County with valuable information and advice that has helped us move forward with the broadband planning process.”

- Abel del Real-Nava, Chair,
Humboldt County
Broadband Action
Committee

Appendix A

Summary of Activities in Whole Community Connectivity counties and municipalities

County/ Municipality	Accomplishments To-Date	Future Plans
Town of Austin	<ol style="list-style-type: none"> 1) Established Broadband Action Team 2) Surveyed existing fiber interconnect from PC Internet 3) Identified critical broadband need at Austin School 4) Created RFP for school and library broadband needs 5) Produced a strategy document for the Broadband Action Team to consider 6) Completed bid process for school and library 	<ol style="list-style-type: none"> 1) Bid needs for Austin Medical Center 2) Create residential and business survey 3) Author Broadband Action Team playbook
Elko County	<ol style="list-style-type: none"> 1) Established Broadband Action Team 2) Met with all fiber, fixed wireless, copper and coax providers. Shared feedback on service interruptions and slow connectivity 3) Completed business and residential surveys 4) Produced Broadband Action Team playbook 5) Assisted two providers in introducing enhanced service 6) Assisted school district in bidding and awarding fiber WAN for Elko County Schools 7) Assisted Shoshone-Paiute tribe in gaining enhanced broadband service to Owyhee 8) Helped city define fiber lease and tower access for existing assets 	<ol style="list-style-type: none"> 1) Help City finish lease agreements for existing fiber and towers 2) Secure enhanced service from several providers for businesses and residential 3) Develop and implement a strategy for more permanent, future-proof broadband solutions. Consider a County /Municipal Open Access Network.

Appendix A

County/ Municipality	Accomplishments To-Date	Future Plans
Humboldt County	<ol style="list-style-type: none"> 1) Established Broadband Action Team 2) Completed business and residential surveys 3) Produced Broadband Action Team playbook 4) Coordinated school district and library needs and proposed and drafted a consortium bid for rural sites 5) Produced a strategy document for Broadband Action Team to consider 	<ol style="list-style-type: none"> 1) Meet with service providers on future plans 2) Coordinate public works projects 3) Develop and implement a strategy for more permanent, future-proof broadband solutions. Consider a County /Municipal Open Access Network.
City of Mesquite	<ol style="list-style-type: none"> 1) Established Broadband Action Team 2) Assessed service in the city. There are two fiber-based providers (Reliance Telecom and TDS Cable). City is well served 3) City is lacking in upstream connections 4) Explored Southwest Gas Pipeline construction and the potential to add broadband 5) Identified CenturyLink fiber path along gas pipeline with an interconnect 12 miles north of the center of the City of Mesquite 	<ol style="list-style-type: none"> 1) Meet with providers to determine interest in providing leased dark fiber or lit service on the fiber path 2) Explore with the City of Mesquite, building city-owned conduit along natural gas pipeline
Pershing County	<ol style="list-style-type: none"> 1) Established Broadband Action Team 2) Completed business and residential surveys 3) Produced Broadband Action Team playbook 4) Continuing to assist Lovelock Tribe with broadband planning related to street beautification project on tribal land in Lovelock 5) Assisting county government with network upgrade RFP 6) Filed School District/Library/Tribal Library and County Broadband RFPs simultaneously. These options being bid together should attract provider interest. 	<ol style="list-style-type: none"> 1) Meet with service providers on future plans 2) Coordinate public works projects 3) Develop and implement a strategy for more permanent, future-proof broadband solutions. Consider a County /Municipal Open Access Network in concert with the county RFP.

Appendix A

County/ Municipality	Accomplishments To-Date	Future Plans
White Pine County/ City of Ely	<ol style="list-style-type: none"> 1) Established Broadband Action Team 2) Completed business and residential surveys 3) Produced Broadband Action Team playbook 4) Positioning City of Ely to leverage planned street beautification project for improved broadband infrastructure 5) Assisted Ely-Shoshone Tribe with broadband planning on tribal lands 6) Assisted White Pine County Schools with the upgrade of its WAN from fixed wireless to fiber connectivity 7) Assisted CommNet in access to tower locations that will improve coverage and broadband speeds in underserved parts of Ely. 	<ol style="list-style-type: none"> 1) Continue to assist with the City/County's plans to leverage the street beautification project for improved broadband 2) Assist school district with implementation of plan for new WAN

