

# Items for consideration and addition to current Wyoming State Broadband Enhancement Plan

Presented for consideration and input to the  
Wyoming Broadband Advisory Council (BBAC) prior to distribution for  
public comment and presentation to Wyoming Business Council (WBC)  
at the upcoming 5-16-2019 WBC Board Meeting in Riverton, WY

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to reflect outcomes of 4-9-2019 WY BBAC public conference call

# Action Item #1 (Recommended):

Modify current Unserved definition as a result of 2019 Wyoming Legislation (HB0247)

## Unserved Defined

Unserved area is an area in which there exists no fixed terrestrial broadband service, or in which the maximum fixed terrestrial broadband speed available:

- (i) To residential customers is at speeds less than twenty-five (25) megabits per second download and three (3) megabits per second upload

## Action Item #2 (Recommended):

Modify current Underserved definition as a result of 2019 Wyoming Legislation (HB0247)

### Underserved Defined

Includes areas of opportunity to be seized between the well-defined terms of served and unserved related to redundancy, quality of service, affordability and customer satisfaction that need to be addressed to fulfill our mission, make our vision a reality and fully achieve our moonshot.

## Action Item #3 (Recommended):

Clarify use of Business Ready Community (BRC) Grant and Loan Program funds for Broadband Enhancement projects as a result of 2019 Wyoming Legislation (HB0001-Section 085-Footnote 2)

# Wyoming Business Council & BRC Funds

Per recent Wyoming Legislation HB0001-Section 085-Footnote 2, \$3,000,000 has been appropriated from the original \$10,000,000 broadband development grant fund. This separate \$3,000,000 appropriation shall only be expended for the purposes of providing grants for broadband projects in underserved areas. Grant applications for support of business development in rural areas of Wyoming shall receive priority for grant funds and no first class city (over 4,000 inhabitants) shall be eligible. Any grant shall require matching funds from a local government applicant in the ratio of one dollar or more for every dollar of broadband grant funds received. These matching funds may include funds received from other separate grants. Grants received from this appropriation shall only be awarded for public-private partnership broadband projects. The broadband project shall not result in government owned broadband facilities or services. This appropriation is intended to fund multiple applications and no single grant application or award shall be for more than 50% of this \$3,000,000 amount.

In addition, per an earlier motion in the October 2018 meeting of the Wyoming Broadband Advisory Council (BBAC), it is recommended to the Wyoming Business Council Board that funds available from the Business Ready Community (BRC) Grant and Loan Program be considered for broadband related projects beyond just those that meet the “unserved” definition. Also, per a motion made and approved at the December 2018 WBC Board meeting, it is also recommended that broadband related projects that apply for BRC funds be routed past the Wyoming Broadband Advisory Council (BBAC) for review, consideration and recommendation regarding the utilization and allocation of those potentially available funds.

## Action Item #4 (Not Recommended):

~~Add a section to Wyoming Broadband Enhancement Plan that specifically focuses on the topic of Telehealth and the important role of Broadband in delivering those services, information and education.~~

- ~~● Telehealth is the virtual delivery of a wide variety of healthcare services, health information and health education~~
- ~~● Telehealth is reliant on a consistent, reliable, scalable and fully redundant broadband network~~

~~Wyoming offers many fundamental challenges due to the Frontier nature of the state. A Frontier state is defined as a State in which at least 50 percent of the counties in the state are Frontier counties. Frontier counties are defined as a county in which the population is less than six people per square mile. Currently the USA has six Frontier States including Wyoming with 17 of the 23 counties fitting the Frontier definition. Wyoming also has the lowest population density of the lower 48 states. According to the 2010 U.S. Census, 43.4% of the Wyoming population lived in a Frontier county and 70.3% of the land area was classified as Frontier.~~

~~Telehealth may be one of the most important developments to positively address healthcare workforce issues in Frontier areas. Patients in Frontier areas can receive healthcare, including specialty care, more locally, reducing the need to travel long distances to receive healthcare services. With telehealth technology, primary healthcare providers have the opportunity to work with specialists to provide more specialized care. Telehealth has the potential to enhance the quality of care, improve health outcomes, keep our aging population in their homes longer and reduce healthcare costs in both rural and frontier areas. However, telehealth implementation has not been consistent throughout these areas and significant regulatory issues still need to be resolved in many states. In spite of these issues, the practice of telehealth has been increasing and is improving the availability of services in many frontier regions.~~

~~As a result of the situation described above, The Wyoming Broadband Advisory Council (BBAC) recommends the following telehealth action items and updates to the Wyoming State Broadband Plan:~~

## Wyoming Broadband Advisory Council (BBAC) Recommends:

1. **Understand and pursue all funding opportunities available** for broadband in the healthcare field including the Healthcare Connect Fund, the Rural Health Care Services Outreach Grant Program, the Rural Health Network Development Grant Program and other grant and loan funds
  - a. Most of the programs that frontier areas can access for grants and enhanced reimbursement are available through shortage designations, including the Health Professional Shortage Area (HPSA) and Medically Underserved Area (MUA) designations, rather than through a designation as a frontier area.
2. **Inform and educate healthcare providers** by creating a best practices manual
  - a. Create a subcommittee that recognizes best practices and compiles them for distribution. This includes leveraging similar work from other advocate organizations such as the telecommunication industry's NTCA Rural Broadband Association. This effort will be ongoing as this industry is ever changing.
3. **Ensure reliable, affordable and scalable broadband** is to all healthcare facilities in the State and pursue available redundancy solutions.
  - a. Research a Wyoming health Network.
4. **Create a low-cost broadband program** for low income, distance patients of telehealth facilities.
  - a. Educate patients on how, what and why this can make a significant difference in their lives now and as they age.
  - b. The state should advocate for medical reimbursement change to the federal government to allow for reimbursements for broadband service when patients are using it to monitor their health, improve health outcomes and to age at home versus at a facility.
5. **Participate in any and all pilot programs** that create an advantage for Wyoming, its healthcare providers and patients.
  - a. Try to attract telehealth trials – remote monitoring and medical device proof of concept etc.
  - b. Create a sandbox environment in Wyoming for health technology.
6. **Look at developing public-private partnerships** to bring down costs.
  - a. The Wyoming BBAC will collaborate with Wyoming Department of Health and other stakeholders to develop public-private partnerships to increase telehealth service offerings throughout Wyoming to decrease healthcare costs to the organizations and individuals, increase positive health outcomes, and reach unserved and vulnerable populations.

## Action Item #5 (Not Recommended):

~~Add a section to Wyoming Broadband Enhancement Plan that specifically focuses on the topic of Mobile Broadband and the critical role it plays in addressing the communication needs of Wyoming citizens.~~

~~As mobile broadband use continues to increase, policies and regulations that impact mobile broadband adoption and use should be continuously monitored to better understand their benefits and challenges in Wyoming. In addition, there is a high potential that mobile broadband and cellular phone service may actually degrade for rural Wyoming citizens in the near future as the earlier 3G wireless technology reaches its planned sunset date, which is currently projected to take place in the 2019 to 2022 timeframe depending on the specific carrier. Due to the shorter range of the current 4G and upcoming 5G wireless technology, many rural Wyoming citizens may lose or experience less reliable cellular communications. As the Wyoming Broadband Advisory Council (BBAC) members and the Wyoming Broadband Manager have talked with Wyoming citizens and local stakeholders in the past year, many individuals are actually more concerned about cellular and mobile broadband than traditional Broadband Internet connectivity. These individuals place a high priority on their voice and text communication capabilities in order to stay in close contact with loved ones, business partners and especially critical emergency services while living and working in remote areas of the state.~~

### Wyoming Broadband Advisory Council (BBAC) Recommends:

- ~~1. The State of Wyoming should continue to monitor and assess policies impacting mobile broadband adoption and use. It is important to coordinate with critical agencies such as the Bureau of Land Management (BLM), Forest Service, Federal Railroad Administration and others to address both barriers and opportunities related to public land permitting.~~
- ~~2. Research mapping costs and initiatives for mobile broadband across all of Wyoming ultimately striving for 100% coverage and a significant increase in coverage by 2023.
  - ~~a. This may require hiring a contractor to assist in a statewide measurement if this has not already been addressed by the FirstNet initiative.~~
  - ~~b. Identify and pursue potential available funding solutions for mobile broadband.~~~~
- ~~3. Identify areas that are likely to not be built by the private sector and research options to further expand mobile broadband capabilities including associated fiber backhaul and emerging technologies such as atmospheric and satellite based communications.~~
- ~~4. Discussions should take place within the provider community to identify and seize opportunities of greater cooperation instead of competition between national and local service providers including traditional cellular companies as well as other telecommunication organizations who are starting to venture into mobile broadband.~~

## Action Item #6 (Not Recommended):

Add a section to Wyoming Broadband Enhancement Plan that specifically focuses on the topic of Education and Workforce Transformation and the critical role that broadband and computer skills play in preparing all Wyoming citizens to be successful in the rapidly changing world of technology.

One of the specific goals for the Economically Needed Diversity Options for Wyoming (ENDOW) initiative is focused on education and post-high school degree achievement for our citizens. To help achieve that goal, high speed broadband will play a crucial role in ensure long distance and flexible education solutions for our citizens who live in the most rural areas of the state. The ability of each and every citizen to become more familiar and proficient with technology will be critical to their success in the rapidly changing world around us. No one should be left behind in the environment of the very near future where technology skills will be a normal and required aspect of our everyday lives. We are already experiencing a sea change in today's world of emerging technologies that will have a significant impact in education, health, work and home life. For many of our children, the jobs we all currently know and functions we fulfill will no longer be relevant while their jobs of the future have not even been created yet.

The world of the near future provides great promise but also significant challenges. Even if we are successful with our Broadband Enhancement efforts, there will be still be even more important aspects to address in terms of equipping people. We must ensure the individual citizens, businesses and other entities within Wyoming are all prepared and equipped to be successful in this new highly technological world. These new technologies will greatly change life as we currently know it while creating significant improvements in productivity, efficiency and optimization. As history has consistently shown many times over, these types of changes will be both beneficial to overall society but also highly disruptive to existing businesses of the present. To ensure our Wyoming citizens and businesses successfully navigate this time of rapid change, we must help them transform and equip the workforce of the future. This includes understanding the roles that will be most likely to be impacted as well as ensuring there are proactive efforts in place to retrain and educate the workforce with new skills. Due to these fast moving technological changes, time is of the essence and there should be no delay.

## Wyoming Broadband Advisory Council (BBAC) Recommends:

- ~~1. The State of Wyoming should implement new standards to require the incorporation of Computer Science and Technology education into the curriculum of all K-12 grade levels.~~
- ~~2. The required funding, resources, knowledge, skills, equipment and other support need to be identified and pursued aggressively without delaying introduction of the curriculum to ensure our Wyoming educators are properly equipped and prepared to be successful in educating the children of Wyoming in this critical area.~~
- ~~3. Grassroots efforts should start to be pursued immediately with appropriate organizations such as the list of Universities, Colleges and Technical Institutes shown below to obtain funding, prepare content and launch technology and computer related content that can be shared with Wyoming citizens of all ages to help prepare them for the rapid changes in emerging technologies and workforce transformation that will be taking place in the near future.~~

Name's	Location	Control
Casper College	Casper	Public
Central Wyoming College	Riverton	Public
Eastern Wyoming College	Torrington	Public
Laramie County Community College	Cheyenne	Public
Northwest College	Powell	Public
Sheridan College	Sheridan	Public
Western Wyoming Community College	Rock Springs	Public
University of Wyoming	Laramie	Public
Wyoming Catholic College	Lander	Private
Wyoming Technical Institute (WyoTech)	Laramie	For-profit
Wind River Tribal College	Fort Washakie	Tribal

- ~~4. Pursue similar grassroots efforts with other advocate organizations such as Economic Development groups, Chambers, AARP, WREA, Farmers Union, Wyoming Business Alliance and others to enlist their support of developing and conducting technology and workforce transformation training especially in most rural areas of the state and with specific groups of the population who may be limited with access or exposure to the other training opportunities generated by the efforts of item #3 above.~~

# Other Potential Recommendations:

The following topics are other potential areas of possible recommended changes to the current Wyoming Broadband Enhancement Plan that was originally developed in 2019. The purpose of these additional changes are to ensure that the Broadband Enhancement Plan is more flexible, adaptable, agile and better addresses the rapidly changing environment regarding broadband capabilities that is taking place on a local, national and global scale.

1. Clearly establish and address the top priorities to pursue in 2019:  
(Recommended)
  - a. Fully leverage the new wyobbmap.org website to communicate, promote, collect and populate Broadband Survey mapping data to build a foundation for public-private partnerships to pursue available grants, loans and other funding opportunities at the local, state and federal levels.
  - b. Aggressively pursue public-private partnerships and initiate projects within the areas of the state in critical need of enhanced broadband capabilities.
  - c. Identify and pursue opportunities for local, state and federal legislation and policies to address key barriers and opportunities such as rights of way, permitting, environmental reviews, joint use of infrastructure, bonding requirements, communication tower construction and middle-mile issues.
  - d. Monitor developments, directly engage Emerging Technology vendors and pursue opportunities to pilot test those new Broadband Internet solutions in the most remote and rural areas of the state.
  
2. Ensure greater and more timely coordination with Legislative resources to ensure alignment with Wyoming Broadband Advisory Council (BBAC) efforts and any new legislation introduced in the 2020 session. (Recommended)
  - a. This will require proactive, consistent, focused and regular communication and outreach activities from the Wyoming Broadband Advisory Council (BBAC) to the Legislative resources within the state.
  - b. These outreach activities will need to be initiated in the spring, continue through the summer and increase in frequency towards the end of the year before the start of the 2020 Legislative session.

~~3. To ensure Wyoming indeed sets the standards for others to follow, no longer define the terms of “Served” and “Unserved” to point-in-time values of download and upload speeds that only meet minimum standards and are locked in for a specified timeframe (i.e. 2022) and instead consider a more flexible and agile scale that can better adapt to the current exponential growth of broadband speeds and capabilities.~~

~~(Not Recommended)~~

4. Fully engage, enlist assistance and provide support to key stakeholders including providers, local government entities (counties, towns, tribes, etc.), businesses, schools, individual citizens and other advocate organizations (Economic Development, Chambers, AARP, WREA, Farmers Union, WBA, etc.) in the following aspects:

(Recommended)

- a. Navigating and pursuing available funding options (grants, loans, etc.)
- b. Assisting with the grant and loan application process
- c. Conducting surveys and collection of local Broadband mapping data
- d. Establishing necessary technical resources and assistance with Broadband
- e. Addressing critical people, culture, education, training and other organizational change aspects that can be barriers and obstacles to fully leverage Broadband

5. To supplement the existing Wyoming Broadband Manager role, consider additional full and part-time resources devoted to Broadband Enhancement efforts within the state to address significant areas of needed attention such as Website, Mapping, Funding, Public-Private Partnerships, Barriers, Opportunities, Emerging Technologies, Telehealth, Mobile Broadband, Education and support to stakeholders such as counties, towns, tribes, etc. (Recommended)

6. Consider creating additional subcommittees to focus on important topics such as Telehealth, Mobile Broadband, Education, Wireless Broadband and Blockchain needs and support to key stakeholders such as those listed in point #4 above. (Recommended)

7. Review current Wyoming Broadband Advisory Council (BBAC) structure to ensure representation of important areas such as the USDA, Wyoming Department of Enterprise Technology Services (ETS), University of Wyoming, Wireless Internet Service Providers, Wyoming Department of Transportation and other key stakeholders.

(Recommended)