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by **Jerry Horton** in **Capital Projects Fund (CPF) Broadband Infrastructure Program: Phase Two Applicant Response Form**

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Original Submission

09/27/2022

Please provide your name:	**John Smith**
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I am providing response comments related to the following application (choose one):	**BVT_MarshallCo1**
I am responding to the concern that this project:	**Other**
Please describe:	**Response to public comments provided by AMG which challenge our proposal**
Please provide your response to the public comments received in the text box below:	**Response to Public Comment – BVT_MarshallCo1** **In response to the public comment challenge from AMG, Blue Valley Technologies, Inc. (“BVT”) respectfully submits the following.** **Superior Network Architecture** **BVT proposes to build a 100% fiber-to-the-home (“FTTH”) network.**

The benefits to this type of architecture are manifold, especially in comparison to other technologies.

1. Fiber is scalable – Unlike technologies that depend on using radio frequencies or passing data over fixed-width channels, fiber is theoretically unlimited in capacity. While endpoint and central office electronics or optics may need to be updated to support delivering multi-gig bandwidth to the end user, the services will operate over an existing FTTH network with little or no additional cost in physical plant.

2. Fiber is resilient – Unlike over-the-air wireless or a hybrid network, fiber is immune to weather events, moisture, electrical events, or interference. A typical fiber network is also built to withstand the loss of signal due to physical destruction of fibers, as well as the loss of transport or network interface electronics. As such, any service interruptions are usually localized and thus suffer less downtime.

3. Fiber is not dependent on licensed or unlicensed frequencies – Over-the-air technologies, including fixed wireless, low earth orbit satellite, geo-synchronous satellite, and citizen's band radio, require the use of public frequency spectrum. This spectrum must be either licensed for use and is subject to limitations for transmissions or is unlicensed, which has more severe transmission limitations and is highly subject to interference. Fiber delivers signal in an isolated, enclosed environment; thus, all frequencies are self-created and contained.

4. Fiber is not subject to loss of signal due to geographic or physical attributes – Over-the-air transmissions are strictly line-of-sight; as such, elevation and angle to the tower or satellite have extreme limiting effect on bandwidth delivery, as does anything which can interfere with or refract the signal. This includes vegetation, rain, snow/ice, and structures. Moreover, over-the-air signals are severely attenuated over distance from the tower, resulting in decreased available bandwidth and greatly increased latency. This attenuation can only be mitigated by deploying more towers or increasing transmission power. Fiber is completely immune to any environmental interference and can reliably transmit signal over 80 km.

5. Fiber utilization does not degrade user experience – Over-the-air or hybrid networks are based on shared medium - i.e. all users share common bandwidth from the transmitter or node. As such, oversubscribed transmitters or heavy usage will effectively lower the available bandwidth to all users on the same transmitter. This severely degrades the user experience and delivers bandwidth well below that advertised. Fiber, on the other hand, is typically engineered to avoid the bottlenecks suffered in shared-medium technologies and is capable of delivering full bandwidth to each end user.

6. Fiber requires very little maintenance once properly installed – Fiber will work reliably for years with nearly zero maintenance. There are no electrical connections and very few mechanical connections. Over-the-air technologies require periodic maintenance or repair to every facet of the signal chain from the transmitter/receivers, customer premise receiver antennas, as well as the towers themselves. While it is true that splicing fiber requires special tools

and training, over-the-air technologies require even more specialized instruments and training, including tower climbing.

Kansas company, owned and operated by the communities served BVT is a cooperative broadband provider based in Kansas. Our customers are not just an account number – they are our family, friends, and next-door neighbors. BVT's mission is focused on ensuring that our customers receive the highest quality, reliable, and scalable services at reasonable prices. More importantly, the dollars spent on delivering and constantly improving the services has direct impact on the local economy and quality of life in our service areas. Our company strives to purchase goods and services from local businesses, give our time and talents to local schools and anchor institutions, and our employees live in the communities we serve. Over the last year alone, BVT has donated over $32,000 in money, goods, and services to local organizations. We also award $19,000 each year in scholarships to graduating students from our communities. Each year, BVT operates the "Blue Valley Giving Tree" during the Christmas holiday season. The Giving Tree program is focused on providing gifts and necessities to indigent families with children. During the 2021 season, the Giving Tree served 694 individuals across four counties. BVT employees also donate their time and talents to community organizations such as Rotary, economic development organizations, chambers, schools, city councils, sports and recreation programs, arts organizations, churches, as well as many others.

At BVT, community isn't just a word – it is part of our culture and spirit.

Efficient and effective use of funding
A fully FTTH network is far more cost effective over the lifetime of the network, especially when built and operated by a company with extensive experience in fiber broadband. BVT is such a company – able to build and maintain scalable, resilient, multi-gig fiber networks at an affordable price.
Fiber networks are extremely low in maintenance costs, can be used to deliver a variety of services with minimal additional expenditures, and can quickly and easily scale to meet the current and future needs of our communities, whether they are in small towns or extremely rural areas.

CAF II/RDOF funding
In rebuttal to AMG's assertions, CAF II is not applicable to these projects.
Moreover, RDOF funding does not cover 100% of the proposed area. BVT's proposal is specifically engineered to all locations as designated on the map file. Each location will be able to receive the same level of service as all BVT's current service areas since fiber does not suffer from the issues which plague over-the-air services.

Please provide supporting documents relative to your comments. Please submit multiple files as a ZIP file.

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By submitting this form for public comment and evidence to support your comment, you are accepting responsibility for the accuracy of the information submitted and that it is true and correct to the best of your knowledge. You agree to be contacted by the Kansas Office of Broadband Development, Kansas Department of Commerce should the need arise. Furthermore, by making this submission, you understand that Kansas Department of Commerce and the Office of Broadband Development reserve the right to publicly publish your comment and evidence provided. Falsification of information will result in rejection of future public comment submissions and could result legal action. Please type your name and today's date in the text box below.	**John Smith**