

Clarke County

BROADBAND IMPLEMENTATION COMMITTEE MEETING MINUTES WEDNESDAY, JUNE 20, 2018



A roundtable meeting of the Broadband Implementation Committee was held at the Berryville/Clarke County Government Center, Berryville, Virginia, on Wednesday, June 20, 2018.

ATTENDANCE

Members Present: Robina Bouffault, Mary Daniel, Scott Kreider, Bev McKay

Absent: None

Staff Present: Brandon Stidham, Planning Director; Cathy Kuehner, Director of Public Information; Gordon Russell, Director of Information Technology

Others Present: Mark Bayliss (Visual Link); Tom Innes (Virginia Everywhere Ventures, LLC); David Williamson and Bryan Biddle (Winchester Wireless); Rudy Worrell (Wave2Net LLC); Alicia Breen (Lumos Networks); Marshall Pearsall (KCI Communications Infrastructure/Consultant for Verizon); Del. Wendy Gooditis; George Condyles (The Atlantic Group)

CALLED TO ORDER

Mr. Stidham called the meeting to order at 2:06PM. He welcomed the attendees to the roundtable meeting and led off introductions. Mr. Condyles then provided a brief Powerpoint presentation on the County's broadband efforts to date, the Telecommunications Infrastructure and Broadband Study, and the purpose of the roundtable meeting.

ROUNDTABLE DISCUSSION

Following Mr. Condyles's presentation, Mr. McKay noted that the County does not have a count of other types of vertical assets that could be used to support antenna structures such as silos. He noted that the vast majority of them have electric service and an inventory would be good resource for providers. Mr. Stidham provided follow up comments regarding the changes made to the County's tower regulations and the creation of the Broadband Implementation Committee.

Ms. Daniel introduced the first discussion question regarding what impediments exist to expanding the quality and availability of broadband internet access in Clarke County. Attendees briefly discussed the recent adoption of House Bill 1258 by the Virginia General Assembly with Mr. Condyles describing the increasing need for co-location and use of smaller antennas and equipment in the near future. Mr. Pearsall stated that the purpose of HB1258 was to facilitate the deployment of new wireless structures in rights-of-way and on private property. He said the bill pertains to the zoning process of siting these structures and seeks to level the playing field to allow wireless applicants to be

treated the same as any other commercial applicant. He added that the purpose was not to take away local government authority but to get localities to focus on the land use impacts of these structures. Ms. Daniel asked the attendees if the legislation has been helpful or has resulted in any change in business plans. Mr. Bayliss explained how the legislation helps to allow for compliance with Federal regulations currently in place for the future deployment of 5G technology and public safety communications. Ms. Bouffault asked Mr. Bayliss whether he thought the County's prohibition on the use of lattice towers is an impediment and Mr. Bayliss replied yes. Del. Gooditis said that utilities have had a mandate since the 1930s to serve the last house on the road and she asked Mr. Bayliss whether he foresees the Federal government moving in the same direction with broadband. Mr. Bayliss discussed the impacts of telephone poles and how they are barely noticed despite there being 24-28 poles per linear mile that exist along roads, and he noted that the new wireless infrastructure would have a much lesser impact with one tower per three square miles. Ms. Daniel asked if telephone poles will be part of the broadband infrastructure in the future and Mr. Bayliss replied that most telephone poles have been phased out and wired infrastructure is now shared on power company poles.

Mr. Worrell asked if the County Zoning Ordinance regulations for Class 1 and Class 2 towers allows for the use of lattice design. Mr. Stidham replied no and briefly explained the rules for Class 1 and 2 towers. Ms. Daniel said that it sounds like allowing lattice towers would be helpful and the providers in attendance agreed. Mr. McKay asked how wide do lattice towers have to be at the base to serve as a WISP support structure and Mr. Williamson replied 12-18 inches in diameter. Mr. Stidham noted that there seems to be a disconnect in contemplating a 199 foot lattice cell tower versus a lattice WISP tower that may be similar to a ham radio antenna. Mr. Williamson said that his company is not interested in constructing towers if lattice design cannot be used because of the higher cost to construct a monopole. Mr. Kreider asked if the lattice WISP towers have to be guyed and Mr. Williamson replied that the most cost-effective way to construct one 80 feet or higher is to have them guyed. Mr. Stidham asked if 80 feet is the maximum height needed and Mr. Williamson replied that he would be more comfortable with a maximum allowable height of 120 feet. Del. Gooditis asked what the heights of the proposed towers along the bench would be and Mr. Condyles replied 120 feet. Mr. Condyles added that he recommended the use of "reverse stacking" in which a tower is constructed with the capacity to be increased in height in the future if there is a need. Mr. Williamson noted that if you are looking to go to a 199 foot tower, it would likely be a more substantial self-supporting tower. Mr. Condyles said that the County would be better off going with a self-supporting tower and Mr. Williamson replied that he would be in favor if the County were paying for the cost of the tower.

Mr. McKay said that he recently learned that there are USDA grants and loans available for backhaul projects. Mr. Bayliss noted that there are limited funds available in these programs and it goes pretty quickly.

Members and attendees then began a discussion of co-location on the County's water towers operated by the Sanitary Authority. Mr. Worrell asked if the County wants better broadband service, why would they not lower the barriers for entry by WISPs. Mr. McKay replied that the Sanitary Authority operates independently of the County. Mr. Williamson said that he is not going to get into a bidding war over space on the water towers and recommends the County create a public-private partnership

with a single WISP to provide service from the water towers. Mr. Bayliss noted that the Sanitary Authority could require in their lease agreements that WISP providers not interfere with one another as a means of allowing multiple co-locations on a single water tower. Mr. Williamson noted that this sounds good on paper but managing frequencies on a tower can be challenging. Ms. Daniel asked for confirmation that the frequency issue can be addressed via lease agreement and multiple attendees said yes but only for providers on the water tower. Mr. Williamson noted that there is still a problem if a provider on a water tower is limited to broadcasting within a specific spectrum that is being used by another provider that is nearby but not on the same water tower. He added that these are non-licensed frequencies that are being used but the lease agreement places limitations on the water tower tenant that the other provider does not have. Mr. Worrell said that it is all possible to coordinate frequencies but you must have willing participants for it to succeed.

Prior to moving on to the second discussion question, Mr. McKay summarized the items of concern so far to include provider access to water towers, frequency coordination, and allowance of lattice towers for WISP support structures. Mr. Worrell asked about access to County fiber optic infrastructure and several members noted that the lease with Shentel does not allow the fiber to be used for commercial purposes.

Ms. Bouffault introduced the second discussion question regarding whether there are infrastructure projects, planning strategies, or grants (State or Federal) that the County should be pursuing in the near future to facilitate broadband expansion. Mr. Bayliss said that the County could build the proposed future towers shown in the Broadband Study because they will be needed for 5G service and will definitely get leasing proposals. Mr. Kreider said that it is a matter of having the money to do this and Mr. McKay added that there is a sizeable percentage of the County's population that is happy with their current internet service. Mr. Worrell stated that if the County wants to put a plan together and ground rules for providing service, then Wave2Net would be in. Ms. Bouffault reiterated Mr. McKay's earlier statement that there are silos and other vertical structures throughout the County that have not been mapped and that could be adapted as antenna support structures. She also asked if the WISP representatives would be interested in this information and they said yes. Mr. Williamson indicated that he uses rooftop antennas and has installed a system in White Post. Ms. Bouffault said that topography information and silo locations with heights should be added to the tower inventory map. Mr. Stidham asked the WISP representatives if they have already done the work to find vertical assets and Mr. Bayliss replied that they are always looking for them. Ms. Daniel asked if they can share what they have found. Mr. Bayliss replied that he has found that many silos are not constructed at the highest point on the property and are either in a low area or off the crest of a hill. Ms. Bouffault noted an area on Salem Church Road in the western part of the County that has excellent line of sight to the Blue Ridge and also a property owner that would be interested in allowing a tower to be constructed. She asked whether it would be a good idea to try to get property owners in these types of areas interested in hosting a tower site. Mr. Williamson said that property owners in these areas may not need a tower if they have good visibility from rooftops. Ms. Daniel asked whether there is sufficient backhaul to reach these areas and Mr. Williamson replied that it varies from carrier to carrier. Mr. Stidham said that the County's broadband website, clarkeconnect.org, can be used for outreach by providers interested in expanding into certain areas.

Ms. Bouffault asked whether it is a wise investment in time for the County to pursue broadband grants considering the limited funds and competition for them. Mr. Kreider said that one of the quickest things we can do is revisit the restriction on lattice towers. Mr. Williamson said that he does not pursue grants in his business approach and prefers barriers to entry to be removed. Ms. Bouffault asked if the lattice tower issue should be forwarded to the Planning Commission and Mr. Stidham replied that he has noted evaluating lattice towers up to 120 feet. Ms. Daniel asked what the difference in cost between monopole and lattice towers. Mr. Williamson said that there is at least a 25% cost differential or more for a monopole because the concrete foundation is more substantial and must be engineered. He added that a good monopole by itself would cost about \$30,000. Mr. Stidham noted that we are not talking about a lattice tower designed to support the weight of a cell tower array and Mr. Williamson added that these are no more than 24 inches in diameter. Mr. Condyles noted that a 120 foot self-supporting lattice tower will typically have legs that are 8 feet from the center of the structure. Mr. Williamson noted that a lattice tower for cell service typically has a radius of 15-18 feet from the base. Mr. Stidham asked if 120 foot lattice towers were allowed, would the providers be willing or able to allow co-location. Mr. Williamson replied that it is possible to allow co-location but it depends on the carriers. Mr. Condyles said that the first provider on the tower would control the frequencies and co-locators would have to coordinate with the first provider. Mr. Williamson also noted that co-locators would need assurances that the tower and infrastructure will meet their quality of service. Mr. Pearsall noted that the lattice towers for WISPs would probably have less visual impact than a monopole for cell service. Ms. Daniel said that her biggest concern is what happens to the support structures when they are no longer needed and asked for confirmation that these lattice towers can be removed relatively easy compared to a cell tower and Mr. Williamson replied yes.

Mr. McKay introduced the final discussion questions regarding what role the County, its citizens, and its business owners should play in this process. He noted that business owners in the County, in particular home-based business owners, are very interested in improved broadband service. Ms. Bouffault noted that the County could serve in the role of facilitator through use of the broadband website and providing information to interested citizens and businesses. Mr. McKay added that they have been telling people to contact the providers again even if they were told in the past that they could not get service at their location. Mr. Innes asked if the County has any upcoming contracts for their internet service, public safety radio system, or franchise agreement. The members noted that the franchise agreement was renewed in 2017. Mr. Innes noted that when these types of agreements come up for renewal, the County can negotiate for the provider to expand service into unserved areas.

Ms. Bouffault asked whether the WISP providers need clear line of sight to their broadcasting locations or whether they can handle some tree coverage. Mr. Innes said that they can handle tree coverage depending on frequency used and other factors. He noted that if WISPs are able to bid on frequencies that are coming up for auction by the Federal government in the near future, they will be able to handle tree coverage more effectively. Mr. Bayliss noted that broadband availability is also becoming a major factor in the sale of homes and in the near future, it may be difficult to sell a home that does not have broadband access. Mr. McKay asked whether the providers could expand service if property owners are willing to share in the cost of tower construction. Mr. Williamson said yes and noted that his company has done this in Frederick County with cost-sharing agreements. Mr. McKay asked what it would cost to build a 100 foot tower. Mr. Williamson said that at retail a guyed tower would cost \$3800 and a self-supporting tower would cost up to \$12,000. He then explained the


process for determining whether a customer needs a tower, the tower's projected height, and estimated installation cost. He also noted that a property owner can recoup some costs for hosting a tower if it serves other nearby customers.

Mr. Biddle asked about the permitted commercial tower development areas (PCTDAs) shown on the tower inventory map and whether they are specific locations that have been identified. Mr. Condyles replied that they have not been tied to specific properties but represent general areas where a tower is needed. Mr. Biddle added that the County could secure the right-of-way for these tower locations and solicit bids for construction. Mr. Williamson said that getting interest from landowners in hosting towers would help facilitate service expansion.

Mr. Stidham asked that if the County were to allow lattice WISP towers, how would we avoid the proliferation of them within a specific area if co-location does not occur. Mr. Bayliss said it is market-driven and could happen but signal degradation would probably be a deterrent. Mr. Innes said that they likely will not congregate in the same location and will go to where the need is. Mr. Williamson said that the providers will not likely build a large number of towers just because the County allows it in the Ordinance and would pursue less expensive options like rooftop repeaters if possible. Mr. McKay asked about the issue of data slowing during peak periods and the WISP representative replied that this is a backhaul capacity problem that they all are having to address as customer usage increases. Ms. Daniel asked how Lumos addresses backhaul issues. Ms. Breen said that her company focuses on providing backhaul to the WISP providers and serving commercial service but they do not do residential service in the County. Ms. Daniel asked how they would reach a customer that is located away from their fiber lines. Ms. Breen replied that they have different options for customers depending upon their budget but they typically do not pass on construction costs to customers. Ms. Daniel asked if they would serve any last mile residential customers in attempting to reach the business customers and Ms. Breen said that they would consider serving them. She added that they have also used Comcast in some cases to serve last mile customers.

Mr. McKay asked if anyone in the audience had questions or comments. An unidentified resident reported his issue with Sprint service at his home on Crums Church Road and noted that he recently needs broadband access to communicate with his doctor. Mr. Bayliss recommended that he look at getting an outdoor signal repeater for his Sprint service and referenced a website to research.

Mr. Stidham thanked the attendees for their participation in the roundtable discussion. The meeting was adjourned by consensus at 3:57PM.



Brandon Stidham, Planning Director