

**Minutes of the Meeting of the Finance and Legal Committees
Held in the Council Chambers of the Municipal Building
On Monday, May 8, 2023**

Tammy Holtzmeier, Chair of the Finance Committee, called the meeting to order at 6:02 P.M.

Finance Committee Members Present

Chair, Council-at-Large Tammy Holtzmeier
Ward 2 Councilman Dennis McBride; Ward 3 Councilman Tony Moore

Legal Committee Members Present

Chair, Dennis McBride
Ward 1 Councilwoman Jennifer Demaline; Council President Brian Fischer

Others in Attendance

Clerk of Council Barbara Brooks; Law Director John Gasior; Mayor Bryan Jensen; Ward 4 Councilman Scott Radcliffe; Councilman-at-Large Craig Witherspoon; Economic Development/Planning Coordinator Pam Fechter; Utilities Supt. Brian Bruce; IT Coordinator Aaron Jenkins; Finance Director Steve Presley; Safety/Public Service Director Duane Streater; Attorney Bill Hanna; Resident Bill Leimkuehler; Resident Larry Escalante; Dave Corrado, CEO of Medina County Fiber Network

Discussion of Fiber Optics for the City of Avon

Mrs. Holtzmeier stated that Mr. Gasior had asked them to have this on their calendars because there were some items that were ready for them to discuss, so she said she would let him introduce this.

Mr. Gasior said that, as everyone knows, we have been studying this possibility of bringing fiber into the City in some way. A company called Lit Communities was in here about a year ago talking about what they did in Medina. We have pursued a broadband business plan and he believed that everybody got a copy of that this week and had a chance to look at it. He believes that we are at the point now where we are going to analyze this plan. Mr. Jenkins is going to explain what is in there because Mr. Gasior does not have the technical expertise to get into it and of course Bill Hanna is also here because he is definitely an attorney who has worked in this field of communications. Mr. Gasior said, so with that, he would turn it over to Mr. Jenkins.

Mr. Jenkins stated that they started this assessment towards the end of June last year and it was completed around the end of December. So here we are after multiple times of rescheduling. He said that he wanted to thank the broadband assessment group: Mayor Jensen, Safety/Public Service Director Duane Streater, Law Director John Gasior, Planning/Economic Development Coordinator Pam Fechter, Utilities Supt. Brian Bruce, and Finance Director Steve Presley. They were all part of the project and sat in long meetings and probably know more about fiber than they really want to.

Mr. Jenkins gave an overview of the project that we have here: The City has had multiple complaints from residents on the lack of internet options in Avon. He was introduced to Lit Communities through Medina County Fiber Network. Council then allowed them to proceed with the broadband assessment to gain knowledge and understanding of building a City-wide fiber network. The result of the assessment shows that a City-wide fiber network is feasible and needed. Avon is not really an ideal city for an internet service provider to build in as we do not have a population density; we do not have high rise apartment buildings

or multi-level business buildings. We have some apartments but not what they are really looking for where they have one fiber coming in and lighting up 50 to 100 residents or businesses.

Mr. Jenkins said that the goal for today is moving forward with an RFP to develop ownership options, a financial commitment, and operation and maintenance options. The RFP does not require any commitment of City funds; it will just provide the information needed to move forward.

Mr. Jenkins gave an overview of the task that they had in the assessment: they had a Market Service and Incumbent Analysis done, which stated what providers are currently in Avon and what technology they are using. They had two prior preliminary designs done for a middle mile network and a last mile network. They had a financial model that was created and a business plan which is what everyone received.

Mr. Jenkins stated that the Market Service Analysis shows data reported from internet service providers and from that data, it was determined that Avon is neither unserved or underserved, meaning that Avon meets or exceeds the FCC bandwidth requirement of 25 megabits per second down and 3 megabits per second up thus causing us not to be considered for unserved grants. Avon also meets or exceeds the FCC bandwidth requirement of 100 megabits per second down and 20 megabits per second up so as not to be considered underserved. The FCC only requires one active connection in a census block to show that it is covered for whichever medium is being used (cellular, fiber, cable, DSL). You will find some of the data gathered from the Incumbent Analysis is not correct at no fault to Lit. It is just whatever the service providers kind of put out. Sometimes you will find in this map here that they will show WOW being in Avon and WOW does not serve Avon. It shows Windstream serving customers in Avon; it might be a last mile connection that they have so they are considering it a part of their network but Spectrum or someone else might be in the City and servicing them.

Mr. Jenkins said that Lit Communities looked at potential federal and state grants that we can take advantage of but unfortunately given the economic status of the City, we are not eligible for any grants at this time. Lit Communities provided two fiber network designs for connectivity – a middle mile network and a last mile network. The middle mile network is the core fiber network connecting increment institutions, meaning our City buildings, water and sewer facilities, parks, Police facilities, Fire Depts, traffic lights, schools, etc. We have a total of 32 anchor institutions that would be connected through three closed rings providing redundancy. The middle mile design is 23 miles long and is comprised of 92% underground construction and 8% aerial construction. The last mile feeds off from the middle mile to each business or resident. They estimate approximately 9,000 service locations. The last mile build length is approximately 175 miles of underground construction and 9 miles of aerial construction. In the map here you can see the orange is the last mile and the purple is the middle mile for what we would consider our backbone. You will see some yellow lines in there; those are lateral connections that are coming off from the middle mile where the middle mile does not come around to. You will see that more on the west side of the City.

Mr. Jenkins said that Lit Communities completed two financial models, one for the middle mile and one for the last mile and each model spanned over 20 years. They included estimated revenue assumptions of 50%, 60%, 70% take rates so that a business or resident connected is a take rate. They used a base take rate of 60%. Each financial model shows area demographics that estimated the duration of the engineering and construction. That included debt and equity assumptions, terms, interest rates, payments, and equity return. The estimated cost of the last mile is \$37,151,000. The estimated cost of the middle mile is \$5,636,000. We broke down the middle mile over 20 years; that would be \$281,000 per year. Depending on ownership models and take rates, Lit estimates approximately \$3 to \$8 million dollars in total revenue will be made over a 20 year period. In discussions with the assessment team, we

would like to further explore a 50/50 partnership with a private partner or other ownership models that may come about. They estimate about 12 months of construction for the middle mile and about 6 months worth of permitting and review. And lastly, we talked with Avon schools and they are considering collaborating on the middle mile.

Mr. Jenkins stated, so to wrap this up, we recommend working with a private provider to create a public/private partnership to deploy a fiber network that would serve residents, business, municipal buildings, schools, parks. The middle mile will not only be available to connect future internet service providers but it would provide business continuity for the City. With that, we would like to put together an RFP to develop the ownership options, the financial commitment, and operation maintenance.

Mr. Gasior asked, and that is for the middle mile and Mr. Jenkins said, yes. Mr. Gasior then said, and that is \$5.6 million. Mr. Jenkins said that he did not mention that they recommend that we do not participate in the last mile construction. Mr. Gasior said, you say you do not anticipate participating in the last mile; how is that going to branch off? Once the middle mile goes in, what is the incentive for the last mile? Mr. Jenkins said it is cost reduction in the network so the backbone is essentially already done for them; they just have to worry about the last mile. Mr. Gasior asked what type of company is going to come in and work off from that backbone and expand on it? Mr. Jenkins said, typically an internet service provider or you could see a small cell provider do the same. You could lease some dark fiber out to different companies or to the schools. Mr. Gasior noted that the schools have some grant money available to them. Mr. Jenkins said, yes, they do but he was not sure right now if we are able to participate in that. We still need discussions with them on that. Mr. Gasior asked if they are part of the RFP and Mr. Jenkins said, yes, we could probably include that. Mr. Gasior said that Mr. Jenkins mentioned the revenue. What was the revenue? Mr. Jenkins said they estimated \$3 to \$8 million dollars depending on the ownership model that we would go with. Mr. Gasior asked, and that is over how many years? Mr. Jenkins responded, 20 years.

Mr. McBride asked how many sites were in the middle mile and Mr. Jenkins said that they came up with 32 sites. Mr. McBride asked if those were mostly City sites and Mr. Jenkins said, yes. Mr. McBride asked, and the schools are going to have how many? Mr. Jenkins believed they had six buildings. Mr. McBride said, and construction of the middle mile would be approximately a year and a half? Mr. Jenkins said, yes, they would start off with permitting and reviews and then shortly after that, they will start construction. It would be 20 years for bonding payment and that is what they recommend is doing a bond. Mr. McBride asked if there was any recommendation on the last mile that for any new developments, the City would require infrastructure be put in and we would own the fiber bank? Mr. Jenkins said, no, they really did not get into any of those models. Mr. McBride said, and then the middle mile, the City and/or a partner would own the pathway. Mr. Jenkins said, yes, and what our plan is there is to help offset maintenance and operations, we would want to require that private provider to maintain and locate.

Mr. Moore said, so the last mile is residents so what we are saying here is that residents are not going to get access to the fiber? Mr. Jenkins said, they will; the last mile connects to each resident or business. Mr. Moore said, so if we are building the middle mile, that is \$5.6 million but then we have to spend another \$37 million to build that last mile so will residents get access when we build the middle? They will not until we build the last, correct? Mr. Jenkins said, correct, and we would want to put in the RFP that that person would build the last mile. Mr. Moore said, so a resident comes to me and says, we are going to get internet and they actually are not going to get internet until we build all that and then connect. If we are recommending that we do the middle, how are they going to get internet on the last

if we are not doing the last? Mr. Jenkins said that the private partner would do the last mile; they would maintain and operate the last mile.

Mr. Moore said, so if we build this, we have to get the internet from somewhere; where is that coming from? Mr. Jenkins said that all the long haul fiber is along the railroad tracks so the third party provider would get their internet from the long haul fiber provider. Mr. Moore asked who is the long haul provider? Mr. Jenkins said there is a list of providers on page 24 of the plan they received. Mr. Moore asked if we know yet who is going to manage the middle mile? Mr. Jenkins responded that we want to put in the RFP that the private provider would manage the middle mile. Mr. Moore said, so our responsibility would be just to pay the \$5.6 million and then walk away and be done with it? Mr. Jenkins said there are still more discussions to be had there in terms of handling certain things. Mr. Moore said, they will assume all of the cost for maintaining outages or anything like that if anything goes wrong and we have to do nothing? Mr. Jenkins said that depends on the ownership model and what we agree to with that third party provider. That could be something that we can add in. Mr. Moore said, yes, because he has talked to some other communities and they have ongoing costs of \$5 million dollars a year with labor, equipment supplies, and things like that.

Mr. Jenkins noted that if you are repairing your middle mile that often, there is definitely a problem. That is your backbone so it should not be getting hit or messed with. He would predict that more on the last mile, the customer end, with someone digging holes in their yard, housing development construction, road widening, etc. That is also why they recommend the 50/50 partnership so that way the cost is less for us on that end. Mr. Moore asked if we have any estimates of what that cost would be that we would be splitting? He was sure that Lit Communities does know or we ought to be able to call Wadsworth and we could probably get that information before we do an RFP. Mr. Jenkins said, yes, we can do that and see what they come up with.

Mr. Radcliffe asked why there were some aerial connections in the middle mile and the last mile Mr. Jenkins said that he thought that when they did their construction write-out, they probably found some areas where it was kind of dicey to do some underground or it was more costly. He was not sure of the exact answer but he can definitely get that for Mr. Radcliffe on why they would. Mr. Radcliffe asked if it was still common to do aerial fiber; he just had the assumption that everything was underground in this type of work. Mr. Jenkins said it is not; providers will usually try to go aerial because it is more cost effective for them but in Avon we do not have much aerial construction and also all the poles are pretty oversubscribed so there are a lot of make-ready costs; poles will have to be upgraded and the power company does not pay for that, we do. Mr. Radcliffe said, so it is standard still to do aerial and Mr. Jenkins said, yes, they can deploy faster in an aerial.

Mrs. Holtzmeier said she had a question about the financial modeling. Mr. Jenkins indicated that these numbers were based on a 50%, 60%, 70% take rate and she asked him to explain what that means. Mr. Jenkins said that means the percentage of connected service locations throughout the City. We used a basic rate of 60% so we are saying 60% of the City would be connected through the last mile network. Mrs. Holtzmeier clarified that for these financial models to be feasible, 6 out of 10 households or businesses would subscribe to this new provider and they would abandon other services that they are currently using and Mr. Jenkins said, correct.

Mrs. Holtzmeier asked what kind of numbers are we talking about for the middle mile take rate and Mr. Jenkins said he thought they estimate probably 5,000 residents would be connected to the last mile. Mrs. Holtzmeier said so 5,000 residents because we are not an underserved community; so it is not as though they do not have service. Realistically, they would need to stop their current relationship and move to

this new relationship and for that, for that \$5.64 million dollars to construct that, is that what your revenue model of \$3 to \$8 million dollars in revenue is based on? Mr. Jenkins said he believed with the 60% take rate, depending on ownership models, and different things added in there, it would be roughly \$5-\$6 million with the 60% with 5,000 residents connected. Mr. Streater stated that there is confusion between the middle mile and last mile. Mr. Jenkins said, so the middle mile is only going to be used to connect our City buildings, schools, parks, etc. We would then want an internet service provider to use that middle mile to connect and they would need fiber cabinets throughout the City. And they would make a ring around the City using our backbone, the purple line, to connect back to a headend. From a headend (which they recommend to be the water tower at Rt. 83 and Detroit Road), they would then take connections from the headend to fiber cabinets using the middle mile. Things stop right there for any sort of other connections on the middle mile. From the fiber cabinets to the households or businesses will be the last mile. The revenue coming back will be the fiber leased off from the backbone. We wanted to talk about taking a percentage of the business net invoice. We talked about maybe we could take a certain dollar amount per household or per business that would then equate to that \$3-\$8 million dollars coming back.

Mrs. Holtzmeier asked if that \$3-\$8 million dollars was annually or over 20 years and Mr. Jenkins answered, over 20 years. Mrs. Holtzmeier said, so assuming that that particular fiber technology is relevant in 2043 we would receive in 2043 somewhere between \$3 to \$8 million dollars. And that base take rate to maintain that until 2043 would be about ...Mr. Jenkins said, we used 60%. Mrs. Holtzmeier then said, so it is 60% and that is based on that continuing to have that service over a period of 20 years. Mr. Jenkins said, yes, and in year one, year two, year three, the take rate goes up. So starting Q1 they might have 100 people connected for residents or businesses and then the next month or quarter, it is going to be even more so it gradually goes up because you are not going to get 5,000 people moving over all at once. Mrs. Holtzmeier said if you look at where we were in connectivity 20 years ago and how much has changed, you can imagine where we will be in 2043 and how things will be changed in ways we cannot even imagine today. Mr. Jenkins said, yes, and he believes fiber will still be the base medium for that; there is nothing better than fiber right now and it keeps getting faster and faster and it is something we have been using for about 30 years. The City has been using fiber for roughly 15 years.

Mr. Radcliffe asked for clarification on what the yellow lines were that were connecting from the middle mile purple route and Mr. Jenkins said they are lateral cables. Mr. Radcliffe stated that he saw the railroad tracks on the map but he did not see the lines connected to where the railroad tracks are coming into this. He thought some of those yellow lines were pointing to that, so are those from the fiber that is running up there now? Mr. Jenkins said, yes, it is dual purpose in some of those areas like Jaycox Road or Nagel Road. It is going up to our water and sewer facilities and also that would be then coming back into the middle mile for the longhaul fiber. Mr. Radcliffe said, so we are taking it off from there to service the building on the corner of Detroit Road and Jaycox Road and the water tower and then from there building the middle mile off from those. Mr. Jenkins said, yes, because it makes sense to push the middle mile all the way up there and it is really only one or two sites so it was cheaper to just build a smaller lateral cable connecting into the middle mile. Mr. Radcliffe said, and the connection is going out west; there is not a lot going out that way but there are not a lot of City buildings out that way. Mr. Jenkins said, correct. We had some additional lateral cables going over there but he took them out because it did not make sense financially to connect, say Miller Road Pump House, with the fiber network. If we wanted to in the future, it would probably be easier for us to just run that on our own and connect it into the lateral at Rt. 611 and Chester Road.

Mr. McBride stated that a couple neighbors paid to run some fiber down from Detroit Road; they ran it north for probably a half mile to pick up three or four homes. Did anyone explore whether we could

require any internet service provider to lease from our backbone? Mr. Jenkins responded, no, but he was not sure that we can require that just because of right-of-way access. Mr. McBride said so if we build this middle mile it costs \$5.6 million dollars. We issue an RFP for the middle mile and we may get some firms to say they would come in and do the middle mile or we will get combination bids in but essentially it is the City although the schools might participate. Mr. Jenkins said the group was not really interested in owning the entire middle mile; we recommend just doing a 50/50 partnership on that, just to reduce costs and we also did not want to fully maintain and operate that middle mile. Mr. McBride said that he totally agreed. Mr. Jenkins said he was hoping that the last mile provider who builds out that fiber network will then take care of the middle mile because if something is broken there, their equipment is not working 100% either. Mr. McBride said, right, and then the cost estimate that was developed – is that for one duct, a 2 x 3 duct, encased in concrete? Mr. Jenkins said he thought it was 2-inch and a 216 strand fiber cable, not encased in concrete. Mr. McBride said, so basically, we are talking about throwing some plastic under the ground and running some fiber in it and that is very fragile so there will be multiple breaks. He would consider that estimate that we were given to be low to put something like that underground and not encase it in concrete.

Mr. Presley stated that the reason we would participate in a 50/50 partnership relative to the backbone, is that incumbent upon whoever is going to build out that last mile because that is where the cash flow is, not in the backbone. They are looking to share the cost of the backbone; we are looking at sharing that cost because it benefits the City. At the same time it opens up a gateway for “ABC Co.” to go out and put in that last mile and then deliver a product to each individual household and that is where their revenue stream is coming from. As part of this plan, there are enough strands that others can come in and rent those also. So in addition to ABC Co. looking at building the last mile, you may have another company that in their financial model, it would make sense for them to come in and also look at renting some of these available strands and building out portions of the City also. It does not limit it that way; it puts a cost of renting the strands from another entity but it saves them that cost of running their own middle mile, so it opens up the door for not only ABC Co. coming in to do this, but other companies to look at it also to say, is it viable to us? We offer a product to Avon based on leasing these strands from ABC Co. and still competing with ABC Co. because we have that investment of the hub area to get through the basis of the City and then everything else is a branch off from that.

Mr. Presley said that when he first looked this project, he wondered why we would do it but as he looked at it further he considered that with what the City pays currently for all of the service that we need to connect all of our buildings and the cost that we pay annually and that the City has invested thus far, we are nowhere near being able to safely connect with all of the buildings in a manner that Mr. Jenkins would really prefer to do.

Mr. Presley said, to Mr. Jenkin’s point and others on Council, the technology is changing. It is changing but what is changing is not the glass, it is the modems and connectors that you hang on the ends of it that dictate the speed of the transmission through that glass so as things become faster, that does not take out the mode that we are transferring the communications. It changes the units on the ends that make it faster. Streaming will be the way things are headed. And then your cable franchise fees are not going to be there because you are no longer providing cable TV, you are providing the streaming service, you are providing the internet on which your entertainment is going to be delivered. But understand, we are looking at just the middle mile at a cost to us which he would round to \$3 million dollars. We would amortize that at roughly 4% so we are talking \$215,000 - \$225,000 a year. For that amount of money, Mr. Jenkins can invest that every year to get what that would deliver to you within two years. And so that is how he was looking at this product to come to Council and ask if this was anything that we need to get into. We are opening up the door for a lot more that would help the residents but at the same time, we

are helping the City. So we are doing a good job helping both sides of the fence in something that to him is kind of exciting.

Mr. Moore noted so it would be two years to do the middle and he asked If we have a projection for the last mile? How long would it be for somebody down on the end of Mills Road to be able to get that internet? Mr. Jenkins said that the middle mile construction is estimated at 12 months and that is after the completion of roughly six months of permitting and engineering reviews, etc. so it would be about one and a half years for the middle mile. They estimated it would be 18 to 24 months to complete the last mile so it could take up to two years after completion of the middle mile for somebody at the end of Mills Road to get service.

Mr. Presley stated that the other thing relative to the buildout is that is where their task load is coming from so somebody who is coming in here is going to be looking at the construction of that backbone but at the same time, they are going to be looking at data points to see where it is most profitable and in what direction. Where are the most housing units in the shortest distance from that? And the bigger thing that we are looking at is that these numbers we are throwing at you are one entity's game plan. It is not a hard dollar number that is etched in stone. That is why the group is looking to go to Council and ask for approval of going out with an RFP so that we can better nail down and better quantify all of these numbers and all of these calculations that someone has done. So that is we are coming to you to say that we would like to do that next step if in the next month that is what it takes to get the information out and those numbers back. And who knows what will happen? Maybe all of a sudden, a product gets so ridiculously priced, that we are looking at double this and it no longer makes sense for us. Or we may get three entities to say that the City has some great ideas here and they are really going to competitively bid this because they want to be ABC Co. and be the ones to work with the City to build the backbone and then branch out for all of the providers. And there are 60 strands still remaining that we can lease to others. And, Mr. Presley said, it does not have to be within Avon that they would lease those strands. It could be through the backbone and then they connect them to a city to the south and then all of a sudden we become that provider through the backbone for somebody else to do this in their city. Mr. Presley said, in his way of looking at it, we are stepping into the beginning of it but it has a lot larger scope than just Avon and he thinks it opens up the door to go in a lot more directions. We do not have enough ideas as to what those directions would be because we have not gone to that RFP and narrowed down everything.

Mr. Radcliffe said that if he heard correctly from the floor, the wire to cable is a 2-incher and he asked how much capacity is on that versus what we currently have in the City versus the future. We have numbers here of almost 9,000 homes and businesses connected. Currently our population is almost 25,000 and we are not anywhere close to the full buildout of the City. And to Mr. Presley's point, the idea of having actual capacity built in up front so that we could service other surrounding communities has a beneficial feel to him on that side of it. So how much capacity is there in this 2-inch line? Mr. Jenkins said that what he meant to tell them is that 216 strands is the fiber cable that they would put in; 2-inch is the conduit size that they would put in. We are putting in a large enough fiber cable; it can support quadruple that because one piece of glass we could split out into 64 connections if we wanted it to, depending on equipment that is used. Mr. Radcliffe stated, so this 2-inch line with 216 strands is with 25,000 residents and almost 9,000 connections, what you would say right now is only about a quarter of usage. So as the City grows, say we get to 35,000 – 40,000 residents in time, we are still less than half capacity so there is built-in ability to have new technology, two times the strands for one type of business to come in or something like that so there is a lot of capacity. Mr. Jenkins said that in Lit's preliminary design, they designed it so that they were not over-subscribing and there was at least 40% room to expand. There is enough fiber, what we call dark fiber, in that cable that we are not using, that we would take.

Mr. Hanna stated that he had the opportunity to become involved in this project two to three months ago after some preliminary discussions with the Law Director and with Mr. Jenkins last year. He thinks that at this point, this is the RFP inflection point and all of the work that has been done so far, which appears to him to have been done well and carefully, is to get a general sense of whether there is value in proceeding. So if Avon were a community of one quarter of the population that was not developing, etc. you might have had an assessment come back that said that there really is not a feasibility model here that is not extremely challenging or that is not going to require the City to invest substantial sums of money and some of the questions about what will you receive in return for your investment become really difficult to resolve. In this case, you have a community that is not unserved, that is not terribly underserved, but that is also not well and fully served with truly high-capacity symmetrical broadband and so the way he looks at this is, there has been some work done, some cost estimates which are based on one particular plan and were used to test out that feasibility and it seems to pass muster but on the other hand, as you move forward into an RFP stage, you have the ability to leverage the private sector and potentially get other proposals and other ownership structures proposed, other designs proposed. The middle mile and last mile architecture is relatively standard because it works but some people have different approaches to different pieces and parts of that and the City has the ability to receive more information that will help inform your decisions about whether you move forward. And to think about what standards you want to suggest or establish at least as aspirational standards for your RFP. Dublin, Ohio, many years ago had a groundbreaking project called "Dublink" where they circled the entire community with an enormous number of fiber optic cables to serve their business community and it allowed them to bring in really high tech, powerhouse firms that gobbled up that bandwidth because they needed it to run data and to engage in the work that they do, so it benefited the city from a financial perspective. Even though they have had that network in place for 20 years, they still had a number of residential areas that they felt were not sufficiently served with state of the art broadband and so they are now in an RFP process seeking proposals for city-wide fiber optic broadband.

Mr. Hanna said it is the same in the city of Hudson, which established its own network, velocity broadband and had some good success with it but like Dublin, feel that it has not had community-wide, geographically equitable access to true broadband and they are in an RFP process. One of the things that is hard for cities and for anyone looking at this is, we are looking at all of this through the lens of 2023 and the analogy to 2003 is apt, because in 2003 we were not thinking about things such as all of our refrigerators talking to each other and talking to the stereo and talking to the TV, and managing power consumption and all of that stuff takes bandwidth and so in Dublin's case, the standard that they set forth in their effort to become the most-connected city, is 10 gigabits symmetrical downloads and uploads, which was a huge step beyond anything that they have currently and really, beyond what is out there for the most part. He does not know if that would be the right number in Avon but that is something that requires you to take a step back and think about what these needs will look like in 5 or 10 years and will this glass and this network help accomplish that.

Mr. Radcliffe asked Mr. Hanna if, in his experience with other communities who have done this, if there was a way to lean this more towards making sure that the residents are served in conjunction with the businesses? He can see the businesses wanting to snap this up to do all that; they have the people in their power and the revenues coming in for that, but he is more concerned about access for our residents. Is there a way to write an RFP that says that we want the vendor to get that service to the residents, to entice them to get that built out for the residents at the end of "x,y,z" road and not around just our central purple line hub but get out to that far west side where we do not have all the buildings, etc. Is there experience in other RFPs that Mr. Hanna could bring to the table that would help us with that?

Mr. Hanna said, yes, you are able to establish standards for the proposals that you will accept. And so you can require that there is discussion of the feasibility, potentially the cost, but also the technical capability of achieving true geographic full-scope coverage. Even before 2003, when cable television was the big new thing and cities like Avon had local franchise authority under federal law, you had the ability to impose build-out requirements, where you could say, in return for the use of your publicly owned taxpayer-funded right-of-way, you were going to grant them the use of that. You could say they were going to pay franchise fees, potentially provide some fibers for the City, etc. And if you annex? For example, a township or a part of a township that has not yet been fully developed and where they needed this, you would say by 6 years into the 10 year terms, you are going to have fully built out this geographical section and thereby achieve equity for all of your residents. That went away in 2007 in Ohio when local franchise authority was taken away but this is different. Here you are asking somebody essentially to make a proposal to you for some sort of a public/private partnership, most likely, in which you have a bigger say in the ground rules and defining what the lay of the land is. It is not just that they have a right to use your right-of-way; they are going to do what they have to do under Ohio law and they will put this where they want to put it and charge what they want to charge.

Mr. Radcliffe said, and that is all normal-type stuff that we would want to see. He does not want to have it be like Dublin or Hudson where we are going out for a second RFP 20 years down the road to get to the resident. He wants the resident to be served equally for this right now. That type of thing is what he would want to see in that proposal and if that is available, then he was glad to hear that. Mr. Hanna said, yes, it certainly is and he was thinking of those cases of Dublin and Hudson mostly in terms of places that were pretty advanced and had achieved a lot using fiber optics and yet they still came back and said their neighborhoods, their residents, were not getting the full benefit of some of those technologies and they wanted to provide for that.

Mrs. Holtzmeier stated that they all just want to do what is best for Avon and luckily we are in a place where we get to hear and learn and entertain what that might be from year to year. She is cautiously optimistic. It is one thing to be excited about something but she wants to always look at how we pay for it and will it sustain itself and will it be something that maintains its life span. So as you have both looked at the study as well as have been involved with other cities, Mr. Hanna, what best practices have you taken from these efforts? Not just ours but all that we should consider if we were to think about moving ahead with an RFP – and worst practices, too, to be fair.

Mr. Hanna said he thinks they are flip sides of the coin for the most part and they have to do with diligence and preparation. Avon is proceeding carefully and cautiously and obtaining information about the feasibility and the practicability of pursuing a plan for City-wide fiber optics. You have worked with a company that engages in assessments and sort of technical evaluations of those questions and also engages in some fiber network construction and design but when you get to the point of the RFP, you are not going to be saying, we are going to take a proprietary map that Lit drew up for us and ask everybody to respond to it knowing that Lit will respond and who knows what else you get. Instead you are going to be making it somewhat generic in terms of technology, specific providers, maybe even some of the timing and the benchmarks within standards that you might establish and the same with ownership models and revenue and whether you lease fibers or whether you participate and own fibers. He said he thought that if you prepare for that as you have done to date and make the most of this opportunity to structure an RFP to get a wide range of responses that are meaningful to the City, then you are engaging all the best practices. What sometimes happens is communities will get very excited and sometimes it is the result of the pitch from an entity that says, we have some funding, we will come in and we will build this out for you and it is no cost to you and you start to feel like maybe it is too good to be true but you can also get giddy and go down that road. And many times if you have not moved deliberately and gotten input from

all of your departments as well as folks outside and used somebody like Lit with independent engineers, then with some of these concepts you can end up back at the starting blocks.

Mrs. Holtzmeier asked Mr. Hanna, when he has been involved or has knowledge of this with other communities, how many responses to RFPs would he assume would come in? Mr. Hanna responded that he thought the number might be bigger now than a few years ago and that the market is looking at projects like this somewhat differently now than it was even five years ago. He does not remember exactly the last time he was here but we were talking about 5g vs fiber vs cable and where it was available within the City and where the weak spots were. 5g at that point in time was going to be universally available. You were going to have your own chimney with its own small cell radio device and of course it has not happened. It may not be the worst thing in the world but the connectivity has not developed the way it was promoted to do. But last week in Cleveland there was an announcement, describing two developments, one with sort of affordable broadband with a non-profit approach and a level of broadband that would satisfy the FCC but was not going to be the 10 gigs symmetrical high powered broadband that in 5 or 10 years might seem like really the minimum you want. And the other thing they are doing is they have started working with a company called Si Fi to do true City-wide higher end broadband. It is hard to say if it will happen but those kind of announcements have not occurred in places like Cleveland before. And with the internet, the COVID experience and people working from home, etc. the need for broadband is going to continue to increase.

Mrs. Holtzmeier said that Mr. Presley made a great point about the connectivity devices on the end, what people are using to hook in to the broadband. She said a lot of our residents sometimes have some issues with equipment that is older that sometimes gets blamed on the connectivity of what is heading to their household. She added that it was good to know from Mr. Hanna that there is a market and we may be looking at more than two but less than ten responses to an RFP.

Mr. Hanna said that he would be very surprised if they broke 10 but he thought it is not unrealistic that they could have more than two. One of the reasons that they have not been overbuilt by multiple providers all competing against each other is the cost of their construction and deployment of technology. It costs more to connect houses that are further apart than to get three times that number of customers with the same number of cable fee or fiber optic feed. But there are companies out there now that are looking at this in a way that they did not seem to be even pretty recently. So he would think that they should get multiple responses which is good.

Mr. Moore asked if any of the other communities that have put in this type of system have been able to lease strands. Mr. Hanna said he thought that Medina is probably the furthest along in that sense and he does not have a handle on what their latest sort of business model is. Mr. Moore asked if Medina started about 12 years ago and Mr. Hanna said, yes, it came out of community efforts and piecing together pipelines that were already in existence and then building from there. He said that he could check into that. He just does not know the answer and does not know of anybody who is doing that in this area at this time.

Mr. McBride said that he thought that this is a good start. He thought it is a pretty good basic backbone but he would probably expand the backbone a touch and probably go with a lot more fiber because the big expense is going to be digging it. Fiber is cheap; if you are doing one pull through a conduit it is almost as easy to do 20 pulls. Mr. Jenkins stated that the original design was designed for 144 fibers and he requested them to double it. You can go up to 400. He said that 144 count seems to be the base and there is still plenty left to go around. Mr. McBride said that Lit has done a nice job helping to get us to this point and he asked if Dublin or Hudson has had an independent engineering firm to assist with putting

their RFPs together? Mr. Jenkins said that he does not know the answer to that but Dave Corrado of Medina County Fiber Network is here and he said that he does have the answer to those questions and he invited Mr. Corrado to come to the microphone.

Dave Corrado, 2037 Sperry's Forge Ct., Westlake, stated that he was an independent consultant and has a company called Tech Exec in the State of Ohio. He said that he was brought on 12 years ago as the CEO of Medina County Fiber Network, but he still does consult around the State of Ohio because he sits on the Board of Broadband Access Ohio, which is a consortium of community-owned networks around the State of Ohio. He said that he heard a number of their questions tonight and is hopeful that his statements will assist them.

Mr. Corrado said that he would start with Medina County Fiber Network. Medina County was not an extension of one community; there was no existing conduit at the time. It is a stand-alone network built by one community and it is strictly a community network similar to City-Link in Wadsworth. The difference is that City-Link is a cable and it is all electronic. They invested \$5 million dollars 20 years ago out of their General Fund because Spectrum doubled the price for cable in the City of Wadsworth area. Even though it is a loss leader, they still did it because they got Spectrum to cut the price in half. Today City-Link has about 50% of the market and Spectrum has the other 50%. We did ask City-Link to participate with us with Lit Communities in Medina County but they declined and wanted to stay on cable. From the size of the cable, they use a 288; that is at a 60% design point for supporting 175,000 residents so a 288 here in Avon will serve you for quite some time.

Mr. Corrado said that he heard a question about connecting the yellow lines or the last mile to the railroad track. The railroad track is your backhaul; that is what brings in your large internet provider that would come into a single point in Avon and then you would build in loops, the purple lines, from that single point. Everybody does not go back to the railroad track; it is just being brought in as the longhaul to get to the internet and then whoever you choose from the RFP, that individual which is called your ISP, Internet Service Provider, would take that and distribute it through the purple and the orange lines. The \$5 million dollars that Councilman Moore brought up is not a public/private partnership. Think of City-Link as another Spectrum. They own the equipment, the data center, the cable, they are completely self-sufficient with all their own employees who also double because they will work on electricity because they own their own power plant and so that \$5 million is very, very inflated. For Medina County on our 151-mile network, our costs are \$200,000 and that is handling everything, so he would think it would be much less here. Again, it would depend on what the RFP company that you are choosing would give you as a value-add for public partnership. For example, we donated our fiber for Lit Communities to bring \$60 million dollars into Medina County to build to the residents and we get a revenue share. We take care of the maintenance on that fiber that we gave them but they take care of all the maintenance and anything they build out from there. In regard to Hudson, they have signed with Lit Communities. I worked on the term sheets as a consultant with Lit.

Mr. Corrado said that, in Hudson, they are doing similar to what we did in Medina; they used our model and he was part of writing the RFP for Hudson and basically they are using their poles in the power space to allow Lit Communities to pull the fiber and then Lit Communities is also giving Hudson a certain revenue amount plus additional fiber to help them expand into enterprise businesses.

Mrs. Holtzmeier noted that Mr. Corrado had talked about the \$5 million investment 20 years ago in the City of Wadsworth; he said they came in because Spectrum had raised their rates. So competitively speaking, what happened in the competition forefront when you come into town? Mr. Corrado responded that Spectrum did drop the price 50%. Now that was a loss leader and he would make that vry

clear. He believed that they are still paying on that from 20 years ago because it was done in a way just to force Spectrum to bring their prices down. In Medina, we have 14 carriers that we brought in our fiber and we reduced service by 60%; we chopped the monthly cost to a customer in half and we have raised \$650 million dollars in capital investment from companies who use the fiber. \$1.2 million over the last five years total. We just brought in a company from Austria and the first thing they asked was if we had community fiber? What has your community done for fiber infrastructure? So when you were all discussing about bringing businesses in, we have those numbers and we have it broken up into new jobs - over 1,000 new jobs. Our take was that we had the asset to leverage. We did not have the money to go out and bond for \$60 million dollars to build to our residents so that is how we brought in the public/private partnership.

Mr. Corrado stated, as he said, they closed with Hudson, he is working now with Westlake, Solon, and Kirtland Hills and doing final term sheets with Hunting Valley next week. When he started as a consultant taking on the role as CEO, you never saw anything like that. And there is money that is coming down the pike: grants, ARPA money, etc. Everything new coming down is 100 x 100 so Spectrum is staying with their HFC product; it is a hybrid between fiber and cable. Your cable providers do have fiber in the street today but it is only between the nodes, which is equipment out in the street; it is not to the house. So Spectrum is going to stay with that and they are banking on a new piece of software which will be available in 24 months which will allow them to do the same download and the same upload but they are not moving to fiber to the home. They believe it is not needed, that this hybrid is sufficient. However, Mr. Corrao said that he would say to them that many of the utilities that they work with for the new devices in smart homes, etc. those interfaces are fiber only; they will not work on electric so that is something, too, to consider.

Mr. McBride asked Mr. Corrao if he anticipated those interfaces that he was talking about that are just fiber, becoming wireless in the future? Mr. Corrago answered, for certain remote areas. The one challenge which you have today with all wireless, is that it is like cable. You pull your internet out of one large bucket. You cannot dedicate a circuit that goes from this City Hall building to say, Best Buy across the street; that is impossible through wireless. But fiber, he can put a fiber from here that goes to Best Buy and nobody else could be on that, nobody else would be using that bandwidth and the bandwidth that you choose to pay for would be guaranteed. That is fiber. That is not cellular, not band wireless which is different than cellular but a product, and it is not cable. And the biggest thing is that it is dedicated. Cable providers and cellular providers do not guarantee in your end-user agreement, that that is what you will get. Fiber providers guarantee that is your minimum, that that is your dedicated bandwidth. Because of the technology of fiber, we can design the networks to do that.

Mr. McBride said that everyone keeps talking about the small cell, 5g small cell and that would be linked by fiber from cell to cell and basically hops up on the street like a bunch of fire hydrants. Mr. Corrado said, right, so the 5g small cell, if you are reading about autonomous cars or smart homes or smart cities with 5g, you need a repeater every 500 ft. There are places, though, for cellular but that is why you see it in cities, because if you do need the repeaters every 500 ft. you need to be in a city area where you can put them on top of buildings. Mr. Corrado added that regarding the concern that Mr. McBride had about the tensile strength of fiber and setting it in concrete, which is a very good point, the vaults take up to something like 30 tons. There are buffer tubes inside the fiber and then it is wrapped in tensile strength and can have metallic sheathing, which is what we use in Medina, so he has seen their fiber pulled 8 ft into the air by a backhoe and not break. After the last windstorm last month, they had two enormous trees on their fiber on the poles, pushing the fiber to the ground and the fiber was still working. And also, the thickness of the plastic which is the bigger cost on the fiber because it is petroleum product, has a very high tensile strength to break.

Mr. Moore stated that he does not want to be the dark cloud but he was going to say what he thought a lot of them were thinking. There are a lot of what-ifs in this - what we can do, what is the potential - and he gets that but he knows that our certainty is that we have infrastructure and road improvement projects that we need to do: the widening of Rt. 83 in two different sections, and it is going to cost us \$10 million, the widening of Chester Road and that is \$11 million. We have 10 different projects in the pipeline that are going to be \$43 million dollars. He has a lot of residents that say they would like to do fiber and a lot who say that is a total waste of money when the potholes in our roads cannot even get fixed. So he is really torn about this because we need infrastructure but he knows we would benefit in the what-ifs. So he was going to be interested to see what our peak could potentially be. If it took 12 years for Medina - we do not know in 20 years from now..... Businesses have never said they were not coming to Avon because we do not have City fiber. In the last five years, we have had 78 new businesses, the next being a world headquarters coming here. We are not losing businesses, we are getting businesses. He is not being a dark cloud but he certainly wants to make sure that we all understand we have other things that are really important to our residents and what we are supposed to be doing as City Council members. And our roads need to be fixed. So he just wants us to make sure that we keep that in mind because that is not being talked about. Looking at these numbers averaging \$275,000 a year for the next 10 years with interest on bonding it. So he wants to be cautious; he wants to be optimistic that we can do this but he wants our roads to be done.

Mrs. Holtzmeier asked Mr. Hanna how would they cautiously step into this next phase to get information if they choose to? Mr. Hanna responded that he would propose that they identify a number of well-constructed Requests For Proposal that seem like they are reaching the same issues that you would be trying to reach here and pull something together for an internal review process, potentially multiple internal review processes to put together a document that will bring information to the City and potentially proposals that are meaningful and speak to the need that has been identified and touch on as many of these related questions as possible.

Mrs. Holtzmeier asked if he would lead that process or if it would be led by someone he would recommend. Mr. Hanna said that he thought a lot of it can be done by lawyers and some of it should be impacted by technical folks as well so that might be Mr. Jenkins and it might be an outside technical person. He said that he is not a fan of lawyers trying to wear too many different hats. He is not a systems engineer; he thought they want that skill set involved in the development of the document.

Mrs. Holtzmeier asked if there were any recommendations or motion by members of the Committees. Mr. McBride stated that he thought that they really need to take that next step and certainly would need Mr. Hanna's assistance. There is a cost to that and they would probably need an outside technical expert and there would be a cost to that. He thought that they should get some estimates on what those costs will be and he thought that Council needs to revisit whether we move ahead. We might move ahead but he also agrees with Mr. Moore that we have a lot of needs and we need them all at once and we are going to be competing for resources. On the other hand, years run by and costs increase and some of the numbers that were recorded by our Finance Director... \$250,000 a year is probably not a very large number in the big scheme of things in terms of the City budget so we can afford it but then again, \$250,000 paves a residential street.

Mrs. Demaline asked Mayor Jensen if this is something that he would like to see the City move forward with? He knows best the resources within the City and what it would take to validate this, to have his staff work on it. Mayor Jensen responded that, number one, and not anything against Mr. Moore, but we can fill our potholes so that is not an issue. As for the other projects that he mentioned, the Mayor and the City Engineer have put a lot of those together to see what we can do and continue to do to

improve the City of Avon. He said that without taking the next step on the fiber optic project, you will never know what it is going to cost or what you need to do and he thought that was a small cost to figure out what that is and then have a real figure in front of them for Council to make a wise decision. Going back to the companies that could come into the City or may not come, having that fiber here allows companies to look at what we have. This Council and the Administration have done a really good job setting the table for everybody and that is when we widened Chester Road over there to five lanes and we are looking at more widening of Chester Road in different locations. We set the table for businesses to look at what we have. If you do not have the fiber, that does not necessarily mean they will not come, but if you have it, it gives them an idea of what is there. In a perfect world, we would like to have everything but he thinks that the next step is looking at it and then making a decision from the next step. You cannot make a decision on this without the next step.

Mrs. Holtzmeier again asked if there were any recommendations or any motions from those on the two Committees on what they would like to do tonight? Or if someone was not on one of the Committees, but a member of Council, they could speak as well.

Mrs. Holtzmeier said that she thought what they have discussed is an important next step and she would like to see them go to the next point which is that RFP. And as they entertain that process, she would like to see the consulting group expanded to those beyond City Hall. Let's bring in our business leaders, let's bring in our residents to get those points of view to help. Let's talk to those who would be end consumers and end users, both sides of the coin here on the viability. So with that, she said that from the Finance Committee side, she would make a motion that they move forward with seeking an RFP and empower Mr. Gasior to work with Mr. Hanna and Mr. Jenkins and others to begin that process.

Mr. McBride stated that Legal Committee recommends the same thing. Mrs. Demaline stated that she would second it, as a member of the Legal Committee.

A motion was made by Mrs. Holtzmeier and seconded by Mr. McBride and Mrs. Demaline and the matter was considered passed by Mrs. Holtzmeier, Chair of the Finance Committee.

Mayor Jensen asked Mr. Gasior if he wanted to see what it was going to cost to go to that next step and Mr. Gasior said to let him talk to Mr. Jenkins and then meet with Mr. Hanna and also with Mr. Presley and get back to Council with a rough idea of what it is going to take money-wise to get us to the RFP.

Mrs. Demaline asked Mr. Gasior if he could also provide them what has been spent to date on this and Mr. Gasior said, yes. Mr. Jenkins said he was not sure if Mrs. Demaline was looking for the total for this project or just so far with outside counsel type consultants. Mrs. Demaline said she thought that both would be helpful.

Mrs. Holtzmeier adjourned the meeting at 7:34 P.M.

Respectfully submitted by Gail Hayden, Assistant Clerk of Council