

Worthington Broadband Winter/Spring 2017/2018 Update

(updated 3/31/2018)

EMAIL #1 - Introduction

Worthington Broadband Committee (WBBC) and Municipal Light Board (MLB) would like to update you on our progress toward bringing broadband to Worthington. This is the first in a series of emails that will lay out in detail the options before us. The goal is to inform Worthington voters prior to a Special Town Meeting where they will be asked to decide on the best course of action and potential expenditure for our town.

We have identified two viable options and are working to answer as many questions as possible before presenting them to the town. In addition, the state has just issued a new solicitation that has attracted additional options we are exploring.

In addition to this series of email updates, we have prepared another look at our current broadband options in chart form. That chart is available as a [PDF on the Worthington Broadband web page](#).

The first option (Option #1 – Build & Own) is for the town to vote to borrow the funds to build and own its fiber network and contract with an outside firm to run it. The second option (Option #2 – Matrix/Millennium) is to have an outside firm, Matrix/Millennium, initially own and operate the network.

Whichever path the town chooses, we expect the network will serve the town well for many years and the services available and network architecture of the two paths are not significantly different. The differences lie in the cost, how much control the town has, and who holds the risk.

Under Option #1, the town would pay for two-thirds of the network construction cost (approximately \$1.79 million) and state funds would cover the remaining third (\$1.07 million). The town would have complete control over the design and construction of the network, as well as the selection of the operator. Two such possible operators are Westfield Gas & Electric and Wired West. A minimum of 280 subscribers will have to commit for this to be feasible, and that is part of the risk the town will bear for keeping more control over the network.

Under Option #2, the town would pay Verizon and Eversource to make the poles ready for the fiber, and would then rent that space. The town would also construct and own an equipment hut for the central electronics of the network. The total cost to the town is estimated at under \$1 million. It is possible that the \$1.07 million allocated by the state for this project could be used for this purpose, which would mean there would be no cost to the town other than yearly pole rental fees and upkeep on the electronics hut.

Millennium Communications Group, an engineering and construction company for the communications industry, and its sister company, Matrix Design Group, would pay for the design and construction of the network, and operate it when completed. A minimum of 365

subscribers would be required before construction would begin. The town would have the option to purchase the system after 3 years.

To discuss the pros and cons of both options, the Broadband Committee and the MLB plan to hold a series of informational meetings in January.

EMAIL #2 – Building the Network

Last week, the Worthington Broadband Committee and Municipal Light Board sent out an email with an update on our progress toward bringing broadband to Worthington. This is the second email in that series. If you have not read last week's email, it is available here.

In order to understand the options before us, it is helpful to understand the basics of what we are talking about. As you may recall, the town voted the following at Annual Town Meeting in May of 2016:

- *Be it resolved that the Town of Worthington supports the building of a fiber to home Broadband Network providing ubiquitous service to all possible residences and businesses in Worthington,*
- *And further that the Town supports financing the project with the support of the Commonwealth of Massachusetts,*
- *And further that the Town will schedule and vote on the necessary borrowing when the Commonwealth clarifies how the network will be designed and built and the amount necessary for the Town's investment in the project.*

Both options before us are for a fiber-to-the-home network. So what's involved in making that happen?

Step 1: A pole survey. A firm specializing in this work comes to Worthington and literally looks at and photographs every single utility pole and/or documents underground hookups to our homes. Typically, the power lines are at the top of the poles and the Verizon phone lines are at the bottom. Other users, such as the MBI 123 Middle Mile Fiber network that passes through town, are in between. The survey determines whether there is sufficient room in the middle for our new fiber lines or whether Verizon needs to move their lines to make room and/or in some cases replace poles. In both options (town owned and operated or Matrix owned and operated) the town would pay for this work. This work would be done either by Matrix or by a 3rd party hired by the town. This work is required before any design work can start.

Step 2: Pole applications. Once we know exactly what we're working with, we file pole applications with Eversource and Verizon to use the poles and have the necessary work done. There are fees to file the applications and again, in either scenario, the town would be responsible for that expense of several thousand dollars. Again, the applications would either be filed with the help of Matrix or whatever 3rd party the town is working with.

Step 3: Make ready. Once pole applications have been filed, the utilities do their own survey. The town is told how much it is expected to cost for the work and the utilities then have 180 days to do the necessary work to make the poles ready for our new lines. Whichever option we choose, the town pays for this work and this is the big unknown cost. Until we reach this step we really don't know the actual cost of the project. It is estimated to cost anywhere from \$600,000 to \$900,000 based on a study that the state (Municipal Broadband Institute) did several years ago. It should be noted that there are many towns across western Massachusetts engaged in the same process over the next year or so and it may be questionable as to whether 180 days to have

the work done, largely by Verizon, is realistic. There are negotiations going on right now between the state and Verizon in this regard.

Step 4: Design & Build. This is where the two options we are exploring start to divide. As the name implies, this step involves designing the network and stringing the fiber on the poles or running lines underground where necessary. Should we decide to build and own our own network, we will work with 3rd parties to manage and do this work. To date, every other town in western Massachusetts that is following this path (about 24 towns right now) is working with Westfield Gas & Electric (WG&E) who has expertise in this area and is approved by the state to provide this assistance. WG&E is doing the design work and managing subcontractors on behalf of the towns for the construction. In the case of Option #2, Matrix as a firm that specializes in this type of work, would do both the design and construction themselves. While the result in both cases is a fiber-to-the-home network with similar capabilities, there can be differences in design and architecture. A town built and owned network would give us full input into those decisions while in the latter case those decisions would reside with Matrix, who would be paying for and owning the network.

While we don't know the exact costs for this step, it is a little easier to estimate what the costs will be. Based on the pole count the state did and road miles that are known, the costs per foot of cable and per attachment can be calculated and reasonably estimated.

It should be noted that, in a town build and own option, we are not necessarily required to use WG&E and could decide to use a different firm, including Matrix, who specializes in this work. The town of Leverett in fact had their network built by Matrix and a recently completed network in the small town of Mt. Washington in southern Berkshire County used another large national firm, NextGen Telecom Services Group.

Step 5: Operation. Once the network is built, someone needs to actually operate it. That includes providing customer service, billing, maintenance and repairs. Should we choose the Matrix option, they, as owners of the network, would be operating it. None of the western Mass towns currently building their own networks, are planning to run their own networks. There are cities in Massachusetts that have their own municipally owned utilities that also provide broadband/telecommunication services and run their own networks. Westfield is a nearby example. They provide service to about 1000 residents right now and are in the process of expanding their network to about 70% of the city.

Having WG&E operate the network for us is one option. The town of Otis has chosen to do this. There are other vendors out there, including Crocker Communications and OTT, a telecommunications company with extensive operations in Maine that is currently running the network in Leverett and owns a small telephone company in Granby MA. There is also the option of running the network cooperatively with other towns in western Mass as members of the WiredWest coop. WiredWest has reached agreement with Westfield Gas & Electric to do the actual operational work for the coop at a group rate.

We should also add that we have just concluded a meeting with two representatives from Charter/Spectrum cable about possibly making a proposal to build a cable system in Worthington

through the recently announced state “Flexible Grant Program”. Right now there is no cable option on the table. Charter/Spectrum has recently announced that any new systems they build in western Mass would be all-fiber networks, as opposed to conventional coaxial cable systems. That being the case, should they make a proposal to build a system in Worthington, the construction process would be the same. Charter would assume all costs, including make ready etc., and they would receive the \$1.07 million allocated by the state for Worthington to subsidize the project. They would retain all control over the design, construction and operation of the network.

We will explore how these options differ in cost in our next email.

#3 Cost to Build

In last week's email we talked about what is involved in designing and engineering a fiber-to-the-home broadband network, regardless of who builds and owns it. This week we talk money!

- How much does it cost?
- Why does it cost so much?
- What exactly are we paying for?
- Who pays for what?

As we'll discuss, some costs are known, but much of what we are estimating for costs are just that - estimates based on an engineering study done by the state several years ago. The total cost for building a Fiber to the Home network in Worthington is estimated at \$3 million regardless of who builds it. In the town-owned scenario, the state would contribute \$1 million and the town would be responsible for the remaining \$2 million. In the Matrix/Millennium scenario, the town would be responsible for approximately \$1 million, and Matrix would bear the rest of the cost. The state allocation for Worthington may possibly be used for this cost.

As we discussed last week, there are a few key steps to building a network. The first thing you have to do is a pole survey. A company who specializes in this kind of work comes and surveys every utility pole in town to determine what, if any, work needs to be done to make room for us to put our fiber on the poles. The cost for that survey is approximately \$70,000.

Once we have a pole survey, the design phase can begin, whether that work is being done by Matrix for their own network or by a contractor hired by the town for a town-owned network. The cost for the design is estimated at \$50,000.

The design will identify exactly which poles we need to use. We then must apply to Verizon and Eversource to use the poles.

Remember, the electric lines are always at the top and the phone lines at the bottom. So the question is whether there is sufficient room in between. In some cases the poles will be fine as is, in others the phone lines will have to move down to make room, and in the worst cases poles have to be replaced to support and/or make room for the additional cables. If the pole has to be replaced because it's substandard, theoretically it is the responsibility of Verizon and Eversource. If the pole has to be replaced because it's fine as is but not adequate for our additional cable, then it is our responsibility.

Verizon and Eversource will do their own analysis of the poles we want to use, and come back to us with a cost to do whatever work is needed to prepare the poles for our use. This work is referred to as "make ready".

The cost to do the "make ready" work is estimated at about \$400/pole. That's based on the experience of other towns who have already done this work. Taking that cost per pole and the estimated number of poles in Worthington (based on that study done by the state several years ago) we estimate the total "make ready" cost at about \$700,000.

Until we make that first \$60,000 step of the pole survey, all costs are estimates or as is often said in our meetings, “carved in jello.”. Once we’ve done the survey, though, the costs start becoming much more of a known quantity. We’ll know exactly how many poles and miles we’re working with and can make much firmer estimates of the build costs. The cost to purchase the fiber and to attach it to the poles are all known costs and can be pretty firmly estimated.

So, in order to get to the point where we can put fiber on the poles and actually build the network we will have spent approximately \$820,000. Up to this point the cost is the same to the town whether we build and own the network or we work with Matrix/Millennium. In the case of the town building its own network, this cost would all come out of the \$1.07 million the state has allocated for us. We would then use the remaining state allocation along with an investment from the town to pay for the actual construction of the network once the poles are ready.

So far the State has been unwilling say whether we could use our allocation to pay for the “make ready” work if we decided to have Matrix build and own the network (Option #2). As a result we may or may not have to cover those costs with town funds under Option #2. One possibility which appears likely is that we will have to use town money up front and will eventually be reimbursed by the state for it.

What’s left? The rest of the project is pretty straightforward. We will need a central location to house the electronics that will run the network. Either we use space in an existing town building or we build or buy a small building (the “hut”). In the Matrix proposal the town would pay for and own that hut. We estimate that cost at \$100,000. Since we would have paid for all the make ready work and applied for the use of the poles, the town would retain the rights to use that space on the poles and would allow Matrix to use it for their network. If we build our own network (Option #1), we would contract with a fiber construction firm through a typical procurement process to purchase the fiber optic cable, hire crews to put it up on the poles, run it to our houses and hook up electronics on each house or business that is taking service. That is estimated to cost the remaining \$2 million.

In the two options currently before us, either Matrix bears that cost and then owns and runs the network or we bear that cost and then decide on who and how we run the network. That’s “operations.” Operations of course have their own associated costs which would be ongoing, and we’ll discuss that next week. It should also be noted that the Matrix proposal offers the town the option to buy the network after the first 3 years. The cost is initially higher than it would have cost for us to build it in the first place, but it declines at a steady rate over 20 years, eventually reaching \$10.

#4 Operations

Last week we discussed the costs associated with building a fiber-to-the-home network. Those are essentially one-time costs. Of course nothing lasts forever, but one of the beauties of fiber optics is its longevity and durability. The fiber is glass with a protective coating around it that passes light. There's no electricity passing through it and there's nothing to corrode, unlike copper wire. So it lasts a long time. Fiber optic cable from 20 & 40 years ago is still running strong. Interestingly, much of the pioneering work in fiber optics was done at American Optical in Southbridge MA in the 1960s. We don't anticipate having to replace the fiber in the next 20 years. The associated electronics do have a shorter lifetime and some funds will need to be set aside (depreciated) for replacements approximately every 7-10 years.

That's the first cost that needs to be figured into the cost of operating the network. Next we need someone to operate it. Like all the other towns in western Mass, we're too small and lack the expertise to literally run this ourselves. We will need to contract with someone for operations and there are a number of firms vying for that business. The town of Leverett contracted initially with Crocker Communications and Holyoke Gas & Electric to operate their network. They have since switched from Crocker to OTT, a phone company based in Maine. Crocker is operating a newly built network in the town of Mt. Washington in southern Berkshire County. Westfield Gas & Electric which is managing the build for virtually all the towns building their own networks, is also offering to provide operational service. WiredWest is also proposing to offer a plan to operate it collectively, and there are others.

There are a few principal elements to operations. The biggest is the actual day-to-day operation and monitoring of the network with associated customers service, billing etc. That is generally referred to as ISP services. A fixed amount is charged per subscriber per month for this service. That is true whether we contract with an operator ourselves or through WiredWest, though the rates may vary.

The other parts of operations are paying of yearly pole rental costs, bonds and insurance on the poles and maintenance. There isn't a lot of routine maintenance, but maintenance and repairs will be needed when something breaks. That can be an electronics failure or a break in the fiber caused by a downed pole. For major failures, we'll have insurance. For smaller ones, we'll have to have funds on hand to cover those costs. Based on other's experience, we can estimate how much reserve we'll need.

So, what's the difference or trade-off between building and owning our own network and then contracting with someone to run and maintain it vs. having Matrix build, own and run the network? We'll talk about that next week.

#5 Operations – Cost-Benefit Analysis

Last week we talked about the difference between operating our own network vs. having Matrix own and operate the network. How do we quantify those differences? It is essentially a risk benefit analysis. If we own the network then we assume the risks, both known and unknown. If Matrix builds and owns the networks, they assume all those risks. How big are those risks and how do we quantify them? Has anyone done this before and what is their experience? Yes, they have and we can learn from them. The town of Leverett has been running their network for nearly 2 years. Westfield Gas & Electric and some other municipally owned utilities in the state have been running networks. The state has been running the middle mile fiber optic network across the region for several years now. In southeastern Vermont a group of 22 communities have been running EC Fiber (built by Matrix), and there are a larger number of community owned fiber networks successfully running across the country. So we have that experience from which we can make reasonable cost assumptions.

What is the benefit of one over the other? It comes down to whether there is a cost difference. If we make the assumption that our make-ready cost will eventually be paid by the state, the cost for the Matrix option is only the cost each individual subscriber pays for service plus a few dollars per month to pay the pole rental and insurance costs. Matrix's proposal is to charge a \$95/month for 50mb service or \$135 for 100mb service.

If the town builds and owns the network, we'll have a fixed cost per subscriber for ISP service (approximately \$29), and then ongoing maintenance, pole rental & insurance costs, cost of backhaul (getting Worthington hooked into the Internet), and debt for the original construction (another \$60-\$100) The difference here is that all the costs other than the ISP cost are largely a single fixed number shared by all subscribers. The more subscribers, the less the cost per subscriber. The Municipal Light Board has determined that the cost per subscriber will be a maximum of \$125/month per subscriber for the first 5 years.

The difference between the two options depends on the take rate (the percentage of households taking service.) The MLP Board and Broadband Committee have spent a great deal of time crunching those numbers (extra points to Worthington's Finance Committee Chair, Joe Boudreau!) What we've found is, that at about 50% it's essentially a wash: The final cost to the subscriber is the same with either option. When the take rate starts to climb to 60% and beyond, the town-owned network starts getting cheaper on a per subscriber basis. At 70%, the difference is substantial, particularly when totaled up over a 15-year period. It is important to keep in mind that all of the amounts that we have been using to estimate the costs of running our own network are guesstimates based on the experience of the town of Leverett. Our actual experience could be different for the better or the worse.

So how do we know what the take rate will be? In both cases we plan on having a pre-signup campaign in which subscribers will be asked to make a deposit for service and we'll need roughly 50% of the town to sign-up before construction even starts. That we believe is a sufficient number to make the enterprise sustainable. For the Matrix plan, there would be a \$125 up front and another \$125 in the first year for service. In a town-owned network, there would be a \$125 sign-up fee. What number can we reasonably expect to subscribe? As you know, we did a survey a year ago. Approximately 40% of the town responded to the survey. Of that 40%, about 70% said they'd take service, or about 200 households which is about 30% of town. So on the one hand we could extrapolate the survey results and assume that approximately 70% of the town is likely to take service. On the other hand, you can say that only 200 households have said they will take service. We assume that take rates will at least be somewhere in the middle. What can we learn from other towns' experiences?

There are essentially 2 kinds of municipal broadband networks. Ones like we're proposing where there is really no competition, like Leverett's, and one's like in Westfield where there is also cable service available. There are many examples of both across the country. In Leverett, they quickly reached 80% penetration in the first year. A similar number was achieved by the town of Mt. Washington, which just went on line. On the other hand, in towns like Westfield where there is competition, the number is lower (30-40% typically.) When you look for failed municipal networks, they are almost always the latter. They definitely can work, but without

good management, planning and marketing are much more likely to fail. In a town like ours where there is effectively no competition, failure is very rare.

And, finally, what about the debt? Who pays for that? The Broadband Committee and MLP Board have reached what we believe is a pretty good compromise between subscribers and taxpayers. We started with the belief that, as much as possible, the debt should ultimately be paid by the subscribers. At the same time, we recognized that, at least initially, the town may need to help. To that end, we have voted to put no more than 50% of the debt on the taxpayers, and for no more than 5 years. Our numbers show that at a 50% take rate, at \$125/month for service, half the debt can be put on subscribers and half on the tax payers. As the take rate climbs we put less on the tax payers. In theory, if we quickly reach a high take rate, the tax payers could see little or no impact on their taxes

So what's left? When do I get my internet? Next week we'll talk about a timeline.

Where is the discussion of what subscribers pay?

#6 Timeline & What Comes Next

In the last few weeks, we've done our best to lay out the options and details associated with bringing broadband to Worthington as researched by the Worthington Municipal Light Board, Broadband Committee and Selectboard. In recent weeks we have met with two additional potential providers who have approached us through a Flexible Grant Program set up by the Massachusetts Broadband Institute (MBI) for towns like Worthington who are still exploring options.

One of these proposals came from a company named WiValley out of Keene, New Hampshire. They proposed a mixed network of fiber to some parts of town and wireless to the rest. We have dismissed this proposal as not meeting the towns desire as voted at town meeting in May of 2016: *The Town of Worthington supports the building of a fiber to home Broadband Network providing ubiquitous service to all possible residences and businesses in Worthington.*

The other proposal, from Crocker Communications, also did not meet that standard. They have continued to refine their proposal to do so, but to date have not presented us with a viable plan.

We have also met with representatives from Charter/Spectrum Cable. Charter provides service in much of Berkshire County as well as some of the towns and cities in Hampshire & Hampden Counties. Our neighbors in Peru recently voted to allow the state to award their allotment to Charter as a subsidy to provide service in Peru. When we met with Charter representatives, they were not sure they could necessarily provide service to at least 96% of Worthington. We expect to hear from them sometime this month with a follow-up. Should this turn out to be a viable option we'll keep you posted.

And finally, we were just notified this week that Comcast is also responding to the MBI Flexible Grant Program with a proposal for service in Worthington. They currently provide service to our neighbors in Huntington and Chester. We have not met with them and similarly to Charter, we do not know whether they propose to serve the entire town. We'll keep you posted on this option as well.

As you may recall from previous emails we also have an open question as to whether Option #2, the Matrix proposal, would allow us to access state funds to pay for our share of the project. Matrix has made a proposal to the Massachusetts Broadband Institute (MBI) through the new Flexible Grant Program. It's essentially the same proposal they have made directly to us. We expect to meet with the MBI later this month to discuss this and hopefully answer this question.

So how do we make a decision and move forward and what is the timeline (i.e. When do I get my internet?) Our goal is to hold a Special Town Meeting in the next few months. Prior to that meeting we will hold town information meetings and be available to hand out information and answer questions. At town meeting we expect to vote on whether or not to authorize borrowing the necessary funds to move forward. We would vote on 2 or possibly 3 options sequentially.

First we would vote on Option #1 to build and own our own network. This would involve the town authorizing borrowing up to \$1.79 million. That money would be matched by a \$1.07 million dollar grant from the Executive Office of Housing & Economic Development (EOHED). If this passes by a 2/3 vote of those in attendance, the decision will have been made and we would stop at that article on the town warrant.

If that vote does not pass, we would then move on to Option and Article #2 which would consider the option to authorize the borrowing of approximately \$1 million to fund the make ready and hut construction costs associated with the Matrix proposal to build, own and operate a network. That potential expenditure may eventually be reimbursed by EOHED or MBI and the town would not need to issue the debt. Again, we would need a 2/3 majority to pass.

Following the Special Town Meeting and if either of the options that involve borrowing pass, we will then be required to hold a special election to vote on a Proposition 2.5 debt exclusion. That will allow us to yearly raise through taxation the debt service to pay for the borrowing in excess of the 2.5% levy. A simple majority will be required to proceed. In addition, the above two options will require a sign-up campaign to determine if there is the minimum subscriber commitment to go forward with the project.

If either option does not pass, we may have the option available to us to ask the Selectboard to enter into negotiations with Charter/Spectrum or Comcast to build a fiber optic network offering cable, internet and phone service at no cost to the town. A vote on this, since it does not involve actual appropriation, would be a non-binding "sense of the meeting" vote.

Assuming one of these options passes, what happens next and how long will it take to get service? The reality is that the work involved with any of these options are essentially the same. The short answer is that our best estimate is it could be anywhere from 18 to 30 months. The biggest unknown, and the one upon which all options are dependent, is making the poles ready for the fiber optic cable. For that, everyone depends on Verizon. Remember, the convention for utility poles, which in most cases are shared and co-owned by Verizon and Eversource, is that the electric goes on the top and the telephone goes on the bottom. There needs to be about 18" space between wires. So there has to be at least 3 feet of space for the new cables. In some cases there will be, and no work has to be done. In other cases the phone cables and or other cables on the poles have to move to make space and/or poles have to be replaced. Once applications have been made and accepted, Verizon has 180 days to do that work. Keep in mind that there are 20 or 30 other towns in western Mass trying to do the exact same thing at roughly the same time. So how long that part really takes is the big unknown.

The time to then string our fiber and get everyone hooked up is similarly estimated at about 6 months and the work is again essentially the same, regardless of who's doing it. So if you figure in time at the beginning to actually sign contracts, do pole surveys, design the network and make pole applications to Verizon and inevitable delays, we're looking at a minimum of 18 months to be operational. Depending on how construction is done, the town could be wired in stages. So the denser areas in the center of town could be on sooner and the outlying less dense areas later. It's really too early to predict how that would play out at this point.

So that's where we stand. We know this has been a long saga, but we believe that there really is a light at the end of the tunnel (pun intended). We now expect to hold informational meetings in February. We are expecting to meet in January with the MBI about funding the town's share of the Matrix Proposal and what the cable options would look like. Following that we'll schedule the meetings.

Please ask us questions! Come to an information meeting if you can. Seek us out individually or as a group. The MLP Board and Broadband Committee continue to meet weekly on Thursday mornings at 9am in the Selectboard office. You are always welcome to join us. Or just send us your questions or comments to broadband@worthington-ma.us. And most importantly we hope you'll be there for the vote at a Town Meeting. Please watch for that announcement.

While this concludes this series of email updates. We will update you with any further developments and will be sure to alert you to informational meetings as they are scheduled.

#7 – Spring 2018 Update – Making a Decision

The Worthington Municipal Light Board and Broadband Committee would like to update you on our work and ask you to please put some dates on your calendar. The most important date is one we probably all have on our schedules, and that's Annual Town Meeting on Saturday, May 5. We expect to be voting on a broadband solution at that time. The Saturday before, April 28 at 10:30am, we plan to hold an informational meeting to go over our options in detail and answer questions. More on both later.

We have been busy this winter and have continued to meet weekly. We have, during this period, considered a few new proposals and dismissed them as inadequate for our needs. One was from WiValley, a firm from New Hampshire, which proposed to build a hybrid network using the state allocation of \$1.07 million that would be fiber to the denser parts of town and wireless to the rest of the town. Part of the town would have gigabit speeds while other parts of town would be limited to either 25mb or 10mb speeds, both far slower.

The other proposal was from Crocker Communications, which would also rely only on the state funds to build as much of a fiber optic network as could be done with just those funds. They estimated that they could reach 60-70% of the town and each subscriber would be entirely responsible for the cost to reach their house from the street and for the associated electronics, a minimum of \$500 per household. They then proposed to seek more funding and/or to slowly build out the rest of the town as they generated revenue from the network. We felt that none of these proposals met the guidelines set forth at Town Meeting in May of 2016 to provide fiber optic internet service to as many residences and businesses as possible in Worthington.

We also met with Charter, now Spectrum Cable, which initially was interested in extending their service from Peru. They have since informed us that they are no longer interested. Since then we have also met with representatives from Comcast who proposed building a conventional cable network reaching approximately 75% of the town for a cost of approximately \$2.5 million. They would be using the state's allocation and are looking for an additional \$1.45 million. After meeting with us they were going back to the state to see if there were more funds available. We had already been told that there were no additional funds. We told them that we are only interested in a solution that reaches as close to 100% of the town as possible and it's not likely that the town would invest town funds in cable network that Comcast would own.

While we are still waiting for an update from Comcast, we are essentially left with what we feel are two good options, as laid out in the email we sent last winter. Option one is to build and own our own network, with the help most likely of Westfield Gas & Electric, as is being done in many neighboring towns (Chesterfield, Cummington, Windsor, Goshen and many others). Option two is to contract with Matrix/Millennium. As you may recall, we would fund the make-ready work on the poles, which means pay Verizon and Eversource to move wires as necessary to make room for fiber optic cables. We would then own the rights to that space, which we would allow Matrix to use. Matrix would then build, own and operate a fiber network. In both cases we would pass as close as we can get to 100% of the homes and businesses in town.

We do have an update regarding the funding of Option #2 from Matrix. We have been told by the Massachusetts Broadband Institute (MBI) that, should we choose to go that route, once the network is built, is complete and running we will be reimbursed for our costs up to the amount of our state allocation of \$1.07 million. So other than some short-term borrowing, there would be no cost to the taxpayers with that option.

Of course there are trade-offs, pluses & minuses, benefits & risks to each option. That is what we propose to discuss at the town information meeting on April 28. We have invited representatives from potential partners to be there to answer questions as well. Please try to join us. If we feel it's necessary, we will also hold an evening session the week of town meeting. Then of course plan on a vote at town meeting on May 5.

Thanks and please feel free to reach out to any of us on the MLP Board or Broadband Committee with thoughts and questions. We hope to see you on Saturday, April 28 at 10:30am.