

Frequently Asked Questions: Lyndon Township Broadband Initiative

Q. What is the Lyndon Township Broadband Initiative?

A. Citizens of Lyndon Township have asked the Lyndon Township board to address the lack of broadband coverage in the area. In response to this citizen led initiative, Lyndon Township funded a feasibility study in 2016 to understand how this issue might be addressed. The result of the feasibility study suggested that building a fiber optic network to provide community controlled broadband access to all Lyndon Township households would be the best solution. The Lyndon Township board is taking the question of whether to move forward with this project to a vote of the people.

Q. Do Lyndon Township residents care about having access to broadband?

A. In June of 2016, Lyndon Township included a survey with the summer tax bill to gauge public interest in broadband. 83% of responding registered voters said that having high speed internet access at home is “important” or “very important”. Additionally, when asked to prioritize a list of fifteen issues for the Lyndon Township Board to address, residents ranked “improving broadband access” second in importance behind only “protecting water quality”.

Q. Do Lyndon Township residents have access to broadband services today?

A. Current data from Connect Michigan (a subsidiary of Connected Nation, partnering with the Michigan Public Service Commission, as part of a national effort to map and expand broadband) shows that at the Federal Communication Commission (FCC) broadband threshold of 25Mb download and 3Mb upload, more than 80% of Lyndon Township households do not have access to broadband. Higher coverage numbers that are sometimes quoted are inclusive of slower levels of service that are not fast enough to be considered broadband, mobile services with data caps, or both.

Q. What is the proposed solution from the feasibility study?

A. The feasibility study suggests that the best long-term solution for Lyndon Township would be to build a fiber optic network that connects every household in the township, and then partner with a private internet service provider to provide service.

Q. How much will this solution cost?

A. The total cost for the solution outlined in the feasibility study would be \$6,819,374, and the bond is for the amount of \$7 million to include some contingency. Proposed financing is using a municipal bond with a tax for debt service, with a cost for each property owner averaging 2.9102 mils, or \$2.91 per \$1000 of the home’s taxable value (taxable value is about half of market value). Lyndon Township property data shows that the average parcel has a taxable value of \$90,539, amounting to an average infrastructure cost to the property owner of about \$263 per year (\$22 per month).

You can calculate your own millage costs as follows:

1. Find your home’s current taxable value on the “Notice of Assessment, Taxable Valuation, and Property Classification” sent to you by the township earlier this year.
2. Take Taxable Value and divide by 1000 e.g. 118,443/1000 = 118.443
3. Multiply result by 2.91 e.g. 118.443x2.91 = 344.669
4. Annual millage cost = \$344.67

Q. After fiber network has been installed throughout township, what will be my additional costs?

A. Monthly costs for basic internet access are estimated to be about \$35 for 100Mbps of bandwidth. 1 Gbps of bandwidth will be available at an estimated \$60 per month. There will be no cap on data, unlike virtually all other providers. Total cost for internet service: millage cost + monthly cost for internet access. For the average homeowner in Lyndon Township this will be around \$57 per month.

Q. How much bandwidth speed does a household really need?

A. The FCC sets the minimum broadband standard as an internet connection with a speed of 25Mb download and 3Mb upload. As shown in the following tables, connection speeds slower than this standard make it difficult to carry out many of the routine tasks for which users access the Internet.

Table 1: Simultaneous Household Uses 25 Mbps Versus 10 Mbps Download

| | 25 Mbps Downstream | 10 Mbps Downstream |
|--|--------------------|--------------------|
| Download emails and participate in an online class | Yes | Yes |
| Stream 1 HD video | Yes | Yes |
| Participate in an online class, download files, and stream a movie | Yes | No |
| View 2 HD videos | Yes | No |
| Stream 1 4K TV service | Yes | No |

Table 2: Simultaneous Household Uses 3 Mbps Versus 1 Mbps Upload

| | 3 Mbps Upstream | 1 Mbps Upstream |
|--|-----------------|-----------------|
| Browse the web | Yes | Yes |
| Upload 2 large files | Yes | No |
| Participate in online video chat | Yes | No |
| Participate in an online class and upload a file | Yes | No |

Additionally, studies show that for households in urban areas, connection speeds increase by about 50% every year, so both speed requirements and the gap for rural areas are increasing exponentially.

Q. Why isn't cellular a viable solution?

A. Cellular is not a viable home broadband solution because of the data caps imposed by carriers. A recent analysis showed that if a data capped household were to use their connection in the same manner as an uncapped household, they would pay over \$6,500 per month in data overage charges.

Q. What about unlimited cellular plans?

A. While unlimited has become a popular marketing word, there are no truly unlimited cellular plans available statewide. Most plans have a "soft cap" in the 22GB – 26GB range, which means traffic may be deprioritized (slowed down) after you use that amount of traffic in one month. Additionally most plans have a different set of rules for "tethering" – that is, using the service on devices other than a cell phone, such as a laptop or mobile hotspot. Some unlimited plans do not allow tethering at all, and others place an even lower "soft cap" for tethering, such as a guaranteed slow down after 10GB per month.

Q. Why isn't satellite a viable solution?

A. Similar to cellular, satellite service comes with a data cap. In addition to this, satellite services have a high latency, making the service unusable for many real-time applications like internet telephones, video chat, and gaming.

Q. How much data does a household really need?

A. The largest consumer of data by far is video – standard definition Netflix video consumes 0.7GB per hour, high definition 3GB per hour, and ultra-high definition 7GB per hour. Given that the average household watches 59.5 hours of TV per week, if all that content is delivered streaming that translates to 178.5GB per month for SD, 765GB per month HD, and 1,785GB per month UHD. But there are lots of non-entertainment uses as well: online delivery of one software package can consume 40GB, running an internet connected camera can consume 140GB, backing up a computer to a cloud backup service can consume 500GB. Some broadband wired providers are putting data caps in place at the 1,000GB per month level, which currently is enough for most households, but some are even running over this cap. The 30GB per month caps offered on fixed cellular connections are woefully inadequate.

Q. Will the Connect America Fund solve Michigan's rural broadband gap?

A. The Connect America Fund Phase Two (CAF II) program requires that AT&T, Frontier, and CenturyLink deliver 10Mb/1Mb speeds to certain committed areas by 2021. 10Mb/1Mb is does not meet the definition of broadband and is insufficient today, let alone four years from now. Additionally, AT&T has stated that they will use wireless to fulfill their obligation, and they are allowed to implement 100GB monthly data caps, which again is insufficient today (could be consumed by about seven Netflix movies) and will not scale to the future.

Q. Should legislators address Michigan's rural broadband gap by reducing government fees and taxes on internet service providers?

A. Reducing costs for internet service providers can help enable them to expand coverage, however, to address the broadband gap any tax incentives should include a corresponding

obligation to serve for currently unserved areas. Otherwise, service providers have no incentive to invest in unserved rural areas when population densities and returns on investment are lower.

Q. Should legislators address Michigan's rural broadband gap by reducing government regulations on internet service providers?

A. Regulations like net neutrality are not necessary where true competition among broadband service providers exists. Michigan legislators should focus on initiatives that increase competition and consumer choice for broadband service. Today, 78% of Michigan residents do not have more than one choice for broadband service providers.

Q. Are community and municipal projects to build rural broadband unfair to for-profit providers?

A. Community and municipal projects in rural areas are doing what for-profit companies do not want to do – build in low population density regions with slow returns on investment. In fact, when a community makes the significant capital investment to build broadband infrastructure, it can open the door for mutually beneficial public-private partnerships.

Q. Should tax dollars be used to build broadband networks?

A. Using tax dollars for broadband infrastructure can make sense when those dollars are coming from local households who directly benefit from the service. For example, a millage might make sense for a municipality that is entirely unserved, while special assessment districts could help partially a served municipality build broadband infrastructure only in its unserved regions.

Q. Will the millage be tax deductible?

A. Yes. Unlike fees that are paid directly to internet service providers, the millage for this broadband project will be deductible from federal and state taxes for users that itemize their tax returns.

Q. Can people outside of Lyndon Township get service?

A. The network will be designed so that neighboring municipalities can build their own networks and then share central infrastructure with Lyndon Township, reducing costs for all participating municipalities. Residents living in a municipality that is not building a network may be able to participate but would need to pay the full cost of their connection – Lyndon Township residents will only pay for the infrastructure needed for Lyndon Township itself.

Q. Will the tax rate change over time?

A. The proposed financing method is a bond backed by a millage, so the millage in a given year will be only enough to pay back the bond. Assuming a 1% rate of growth for property values every year, the average for the duration of the bond is 2.91 mills. Over the past twenty years Lyndon Township property values have risen by an average of 4.4% per year (even taking into account the housing crash), so it is likely that the millage rate will drop below 2.91 mills as property values rise.

Q. Will improved internet access impact the value of my property?

A. Real estate agents in Lyndon Township report that there have been a significant number of home buyers who chose not to buy when they discovered that broadband access was not available in the township. This translates into lower home values, and means that when a parcel gets access to broadband, its value rises. A 2015 study from the University of Colorado found that this difference nationally is around 7.1% - so a home valued at \$200,000 would increase in value by around \$14,200.

http://www.lightwaveonline.com/content/dam/lw/documents/FTTH_Report_06_26_2015.pdf

Q. If my home value goes up won't I owe more taxes?

A. Increases in taxable value are capped at the Consumer Price Index. Over the past twenty years, the CPI has on average risen by 2.2% per year. Since Lyndon Township property values have risen by an average of 4.4% per year, in general our properties are already hitting the cap every year, so a 7.1% increase from broadband availability will likely have no effect on taxable value.

Q. Will I be able to get services besides just internet access over this fiber?

A. Yes. While the initial internet service provider for Lyndon Township may provide only internet connectivity, once the connectivity is in place there are numerous "over the top providers" of television and telephone services – some examples for TV are Netflix and Amazon Prime for video on demand, and SlingTV and DirecTV Now for live. Some examples for phone are Ooma and Vonage (keep your existing phone number and phones). Additionally, Lyndon residents would be able to take advantage of many services previously unavailable to rural residents, including streaming security cameras, computer backups, home automation, and more.

Q. Will I be able to save money on other services like TV and phone by using this broadband connection?

A. Yes. Once the broadband service is available, households can save money by shifting to phone and TV service delivered "over the top". Some examples – a \$50/month (or more) Dish Network subscription can be replaced with Netflix (\$10/month), and/or SlingTV (\$20/month). A \$30/month landline phone can be replaced with Ooma (\$5/month and free long distance).

Q. What kind of oversight will be proposed and statutorily put upon the Lyndon Twp. board to properly spend the bond money earmarked for broadband network?

A. The Lyndon Twp. board is required by law to have an audit performed annually. Taxes collected from this millage must be used specifically for this project and not co-mingled with any other Twp. fund. In addition to oversight by the State, a resident oversight committee will be formed to watch over the finances of this millage and expenditures associated with it.

Q. When will service be available?

A. The feasibility study suggests fifteen months for construction of the network. There will then be a ramp up period of several months as households are brought online.

Q. Do I have to pay for any equipment?

A. No – for households that sign up during the initial period, there will be no additional cost for equipment. For households that sign up in the future, there may be an initial cost for household equipment.

Q. How do I get connected?

A. After the project is funded, every household will receive a mailing to sign up for service. Residents can either return the printed form or sign up online.

Q. Can I keep my current email address?

A. Yes, unless you are using an address from another internet service provider like an address ending in @comcast.net. Traditional email hosts like Gmail and Yahoo will work just fine. This service will not be providing email hosting – users that do not have an existing email address are recommended to sign up for Gmail.

Q. What about 5G?

A. The 4G cellular standard launched in 2008 and promised speeds up to 1000Mbps. As of September 2016, actual 4G speeds in the U.S. average 14Mbps. The 5G standard is not yet finalized (targeted for 2020) but is targeting peak speed requirements at 100Mbps for outdoor use. Additionally, 5G relies upon building many more fiber-connected towers (currently, 5G users would need to be within 100 meters of a tower), which is not likely to happen soon for rural areas. Finally, there is no requirement in 5G to remove the data caps that currently cause 4G connections to be prohibitively expensive for household use.

Q. Who will operate the service?

A. Lyndon Township will not operate the service – they will contract with a private operator. This operator may be a cooperative organization like the Michigan Broadband Cooperative, or a for-profit provider that is competitively bid and then brokered by the Michigan Broadband Cooperative.

Q. I heard that municipal networks often fail, is this true?

A. The vast majority of municipal network are successful – a map of currently operating municipal networks nationally is available at www.muninetworks.org. Entities who assert that “municipal networks often fail” are generally funded by lobbying groups for big telecommunications companies who view municipal networks as a threat to their profits.

Q. Are private roads included?

A. Yes – this project includes running fiber down all public and private roads in Lyndon Townships.

Q. Are driveways included?

A. Yes – this project includes running fiber down all driveways regardless of length for household that sign up during the initial period. Households that sign up after the initial period, including new construction, may be charged a connection fee based on distance from the road.