Warrant Article Background Information

The following is background, detail and supporting material for the information contained in the one-page overview document.

Total Cost

Comcast $462,123 - The town is voting an amount up to $462,123 (to be financed over 15 years at an anticipated interest rate of 3.5%). This number is based on Comcast’s buildout estimate, the Charlemont MBI remaining Grant Allocation and a 50% match of the funding gap from Charlemont as outlined in an email exchange between MBI and the Selectboard. Interior equipment and wiring provided at an extra change.

Municipal Fiber Network - $1,466,972 - This is based on building 100% of the distribution network plus drops to 70% of Charlemont premises. This also assumes that drop costs will be covered up to the first $1400, which would cover at least 87% of Charlemont premises. This comes from the high-level cost estimate based on our completed network design. It is expected this amount would be financed over 20 years at an anticipated interest rate of 4.5%.

Unlike with Comcast, the cost to the town of building a municipal fiber network depends on how many people sign up (the “take rate”). If less than 40% of town wants to connect, then the total construction cost is lower. If more than 40% of town chooses to connect, then construction costs are higher, but the additional subscriber revenue will cover part of the construction dept, reducing the tax burden.

Financing Mechanism

Comcast - Cherry Sheet Deductions - This financing mechanism is needed because of Massachusetts Law that prohibits municipalities from giving money to fund the building of private infrastructure. The interest rate is based on recent state borrowings by the State of Massachusetts as outlined in an email exchange between MBI and the Selectboard.

Municipal Network - Authorized borrowing - The town of Charlemont authorized $1.75 million dollars for a municipal fiber network with a debt exclusion vote and town meeting vote in May of 2015.

Additional Grant Funding

Comcast - $0 - The Broadband Committee, Finance Committee, and the Selectboard have been in conversation with representatives at MBI and our Legislators to see if additional money could be found in support of this solution. As of the time of this writing, no additional money has been made available to this project and no opportunities have been identified to pursue.

Municipal Fiber Network - $100,440 - WG+E bid in the federal CAF-2 auction and has secured $100,440 in federal funding that will be paid to Charlemont if we build a municipal fiber network with
WG+E. The funds will be paid to the town over 10 years ($10,044 per year). The town will receive no federal funding if we do not build a municipal fiber network.

Charlemont Selectboard and Finance Committee decided (against the recommendation of the Broadband Committee) not to pursue additional funding from the Federal CAF-2 program because it would have committed the town to a municipal fiber network and precluded the ability to choose Comcast.

The town can continue to look for other grant funding to help defray the construction or operation costs of a municipal town network, such as emergency management grants, transportation grants or future federal broadband grant programs.

Finance Term

Comcast - 15 years - Because the maximum term of our franchise agreement with Comcast is 15 years, this is the maximum borrowing term our Finance Committee recommends. A longer financing term would put Charlemont in the position of potentially paying for a service that is no longer in operation.

Municipal Town Network - 20 years - The financing terms recommended by the Finance Committee and the Treasurer as the most advantageous for Charlemont.

Impact on annual tax rate (per $1000 valuation / year)

Comcast - $0.29 - This assumes a 15 year payback and an anticipated interest rate of 3.5% as outlined in an email exchange between MBI and the Selectboard

Municipal Fiber Network $0.66 - (at 40% take rate) This assumes a 20 year payback based on the financing terms recommended by the Finance Committee and available instruments for municipal borrowing. This is outlined in the document for the debt modeling.

Unlike with Comcast, the cost to the town of building a municipal fiber network depends on how many people sign up (the “take rate”). If less than 40% of town chooses to connect, then the total construction cost is lower. If more than 40% of town chooses to connect then the construction costs are higher, but the additional subscriber revenue will cover part of the construction debt, reducing the tax burden. The maximum tax impact impact is at a 40% take rate. At a 59% take rate, the tax rate increase is similar for Comcast and the municipal network. At a 72% take rate, we project no impact of the municipal network on the tax rate.

For both Comcast and the municipal fiber network, tax rate impacts are based on a total valuation of $139,070,693 and a median home valuation of $201,000.

Who is served by the network

Comcast - Proposal excludes Bassett Rd with plans to serve 96% of remaining town neighborhoods - Comcast agrees in their proposal to cover 96% or more of homes in “reachable” neighborhoods. An important part of the negotiations with Comcast has been to get them to agree to
reach many neighborhoods initially considered unreachable for various reasons. Comcast has agreed to reach all neighborhoods in town with existing homes except the end of Bassett Road (which is only reachable through Heath). The following difficult neighborhoods will be reachable: Heath Stage Terrace, Warner Hill Rd, Johnson Rd, Hawk Hill Rd., Deer Run Lane, and the northern end of Maxwell Rd.

Comcast has agreed to serve at least 96% of homes in these reachable areas, but some homes and roads in these neighborhoods could be excluded based on the final design.

**Municipal Fiber Network - 100% of premises** are included in the design and cost of the network. Additionally, this cost includes wiring inside the home for each premises served and all in-home equipment (excluding telephones).

**Installation cost to homeowner**

**Comcast - $80 for standard 250’ aerial connections.** We estimate that at least 47% of town will qualify for these standard installations. For non-standard installations, Comcast has promised verbally to cover the first $1400 of the cost of each non-standard installation, although they declined our request to include this language in their written offer. In addition, non-standard installations within the home cost $40/hour + materials for non-standard installation and for any interior wiring.

**Municipal Network - Free up to the first $1400 of costs,** including all materials and interior wiring. The standard installation from WG+E includes the cost of the WiFi router and interior wiring to a first floor location. We estimate the connection cost will be free to at least 87% of town based on our premise planning report from WG+E.

**Monthly Charges by package**

All charges have been rounded to the nearest dollar.

**Internet Only**

**Comcast** - All prices are based on the current provided price list and are subject to change. Promotional pricing may also be available.

Internet only packages range in posted price from $50/month - $105/ month for packages matching the speed of the municipal fiber network. Comcast also offers a 2GB service for $300/month with an additional $500 installation charge.

Comcast is including in our proposal an income qualified, low income, internet only for $10/ month for homes with school age children on school lunch, veterans or those living in subsidized housing who can qualify.

Comcast outlines in our proposal that approximately 70% of customers subscribe to speeds of 100 Mbps or higher and news reports from 2016 indicate that 60% of Comcast internet is Performance Pro
or Blast!. This indicates that the price range for the typical customer for internet only would be $90 - $93/month (not including modem).

*All internet only packages require a Comcast compatible modem, which has a rental fee of $11.00/month. You can also choose to purchase a modem from a third party.*

There are no taxes or fees, other than the rental fee, associated with internet-only services.

**Municipal Fiber Network** - the cost is the same for all subscribers and is lower depending on how many people sign up.

**Internet Phone Add On**

**Comcast** - $26 - $48/mo.

From the current provided price list, Comcast offers four phone prices.

- **Infinity Voice Unlimited** - $40 with a TV Package, $45 without.
- **Infinity Local and More** - $25 with a TV Package, $35 without

Taxes & Fees range from $1 - $3/ mo. Our estimate of taxes and fees are based on an informal survey of bills from existing Comcast customers in Western Mass.

**Municipal Fiber** - $23/month for a plan with long distance included

Phone $15/mo. plus $8/month taxes. Taxes for phone based on estimates for existing subscribers in Westfield.

**Triple Play**

**Comcast** - All prices are based on the current provided price list and are subject to change. Promotional pricing may also be available.

$156 - $170 breaks down as follows:
- Comcast standard triple play package $130
- Modem rental: $11
- TV Box: $2.50
- Remote: $0.18
- Taxes and Fees range from depending on the specific package $12 - $26

Our estimate of taxes and fees are based on the provided price list and an informal survey of bills from existing Comcast customers in Western Mass.

Premium channels + on demand content are common add ons that bring the typical bill with television over $200/month.

**Municipal Fiber**

$142/month breaks down as follows:
Municipal GB internet - $79/month
    Cost from [this estimate summary](#) based on Charlemont RFI responses for network operators and the MBI RFP for regional network operations.

Phone - $15/month
    Based on WG&E’s current pricing to Westfield Customers

Over the top television - $40
    There are a range of price points depending on your TV needs ($6 - $100+), outlined well [here by Consumer Reports](#) or in this article from [PC Magazine](#), or one from [Clark.com](#). The Hulu Live package ($40/month) aligns best with the TV offering of Comcast Triple Play.

Comparisons of the channel lineups from different TV packages are complicated. We prepared the following [guide to the different channel lineups](#) based on [this online comparison of popular streaming services](#) and the packages available from the Comcast [price list](#).

Taxes and fees - $8
    Estimated taxes for phone based on existing subscribers in Westfield. TV taxes are included in the third-party package prices.

Other Information (Pros/Cons)

Technology
    Comcast - Comcast’s cable network uses hybrid fiber-coaxial cable (HFC) technology. The core of the Comcast network uses fiber optics, while the connections in each neighborhood and to each home use coaxial cable.

    Municipal Fiber - The municipal network would be 100% fiber-optics-to-the-home.

    Fiber optic technology is very fast and forms the backbone of most cable and wireless services.

Comcast Customer Service
    Comcast has a history of customer service problems based on 24/7 Wall St.’s annual customer satisfaction poll conducted in partnership with Zogby and on the FCC settlement with Comcast over billing irregularities. Recent specific examples:

    In 2018, Comcast was voted the [#15th Most Hated Company in America](#).
    In 2017, Comcast was voted the [#1 Most Hated Company in America](#).
    In 2016, Comcast is [fined for billing practices by the FCC](#)
According to Comcast, customer service is improving after massive investment by Comcast over the past few years.

**Net Neutrality**
Federal guarantees of network neutrality have been repealed, which allow internet service providers, such as Comcast, to prioritize certain content on their network and slow down or potentially block other content, such as competitive over-the-top TV services.

**Less Control Over Network Buildout**
- **Comcast.** Under the Comcast option, the Comcast network would be built under a [grant agreement between the Massachusetts Broadband Institute (MBI) and Comcast](https://www.massbroadband.org/), Charlemont is not a party to this agreement and would not be directly involved in the oversight of the network build out.

- **Municipal network.** The town would contract with WG+E and other firms to build and operate the municipal network. WG+E would serve as project manager during construction, working with and on behalf the town. The town would also select the ISP and operator for the completed network. The ISP and network operator would work under contract to the town, with periodic contract renewals, and the town would be able to switch vendors in the event of poor service or lower cost to the town.