



A Guide to Municipal Broadband

A SOLUTION FOR THE FUTURE

On Monday, March 13 the City Council held a roundtable discussion on the subject of municipal broadband. During the meeting, the firm tasked with conducting the feasibility study, CTC Technology & Energy, presented their findings on the feasibility of building a municipal broadband service here in Cambridge, and what business model would work best for our city. This study has been conducted over the last year, and includes a mail survey from the summer of 2022. This brief report is an abbreviated recap of the roundtable discussion, feasibility report findings, and the next steps.

Glossary of terms:

ISP – Internet Service Provider

FTTP – Fiber to the Premises

Take Rate – amount of people/businesses/entities that will subscribe to the service

Capex – Capital Cost Expenditure

Symmetric Speed – Equal upload and download speeds

What is Municipal Broadband?



Municipal Broadband is a city-funded internet service that would provide high quality symmetric speed broadband at competitive pricing, with a secondary pricing option for low-income earners.

Why do we need municipal broadband?

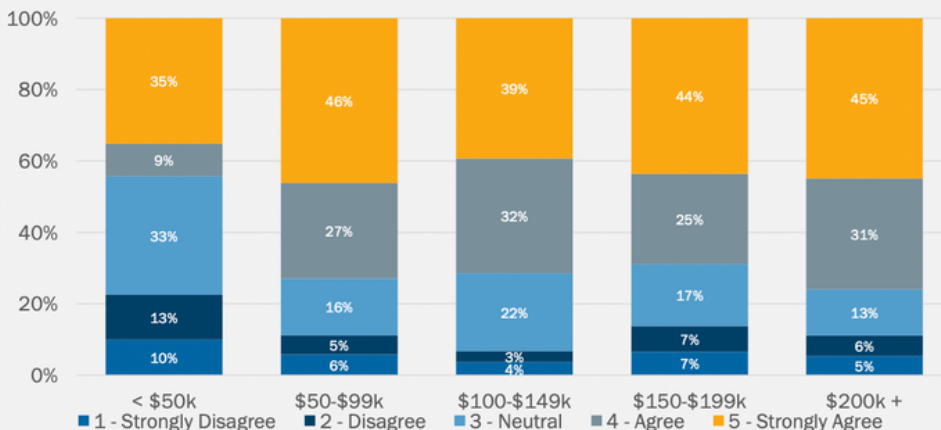


In a mail survey conducted by Rebel, in partnership with CTC Technology, 66% of respondents said they support the implementation of municipal broadband, even if it means creating a tax subsidy. Our residents are looking for more, and it's time we give it to them.

MARKET OVERVIEW

Statistically valid survey shows community support for a municipal fiber network, even if a tax subsidy is required

Agreement with Statement: "The City Should Facilitate a Fiber Broadband Network, Even If This Requires a Tax Subsidy"



- 66% agreed or strongly agreed that City should facilitate building a fiber broadband network, even if this requires tax subsidy
- Modest differences in such support between owners and renters (61% vs. 68%)

Notes: Citywide mail survey conducted to a random sample of 5,000 households in summer of 2022, with 604 responses exceeding target and providing 95% confidence that the results are within 4% of the population as a whole



In addition to simply providing a service, a municipal broadband service also allows the City to have more control over what a reduced-cost internet service can look like for low-income households by offering more pricing flexibility and better service overall. The internet has quickly become an essential that we all use for work, school, recreation, and more. We invest in our schools, roads, and other infrastructure to ensure that Cambridge is at the forefront of innovation, yet broadband service throughout the City is many years behind. Municipal broadband is key to bringing Cambridge well into the 21st century and beyond.

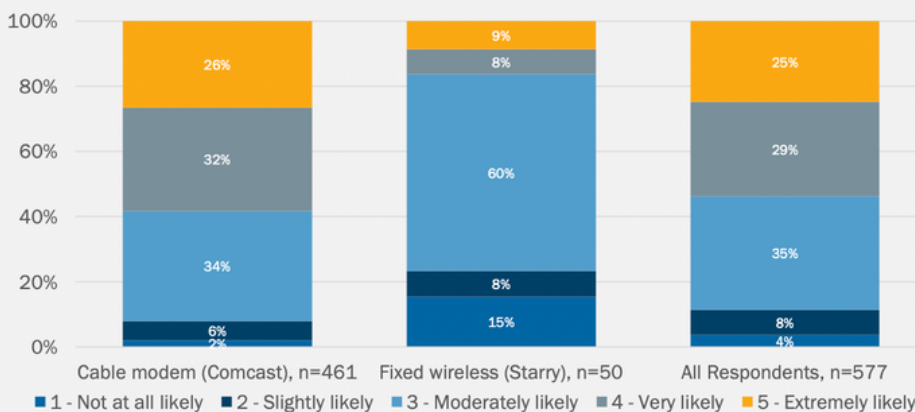


Our residents are also looking for other internet providers in the City (see graph below), and a city-funded ISP is something they can rely on.

MARKET OVERVIEW

Survey also shows baseline interest in switching to new internet options, particularly among Comcast subscribers

Likelihood of Acquiring New Internet Service



- 87% believe there is need for an additional ISP
- Interest in switching strong among Comcast subscribers (58% likely or very likely)
- Interest in switching weaker for Starry subscribers (17% likely or very likely)

Notes: Citywide mail survey conducted to a random sample of 5,000 households in summer of 2022, with 604 responses exceeding target and providing 95% confidence that the results are within 4% of the population as a whole



In the last 10 years, internet access has become an essential utility, much like electricity, water, and heating. More people are online than ever before, and as we saw during the height of the pandemic, when all else fails us, the internet is still there to serve as a bridge between others. Unfortunately, what we also saw during the pandemic was the growing digital divide in our City.



Photo: Cambridge Public Schools



For families with students participating in remote learning, frequent connectivity issues made it difficult for students to keep up with their classmates during the day, and after school while doing homework. What was more jarring during the remote learning months was the stark disparities of speed and reliability between neighborhoods around the City. Although the School Department was able to supplement with mobile hotspots for families, it is time we invest in a long-term solution to a growing problem that is widening the divide between those who have access and those who don't. A municipal broadband service will ensure all households have the ability to get online, stay connected, and do so at high speeds with reliable coverage.

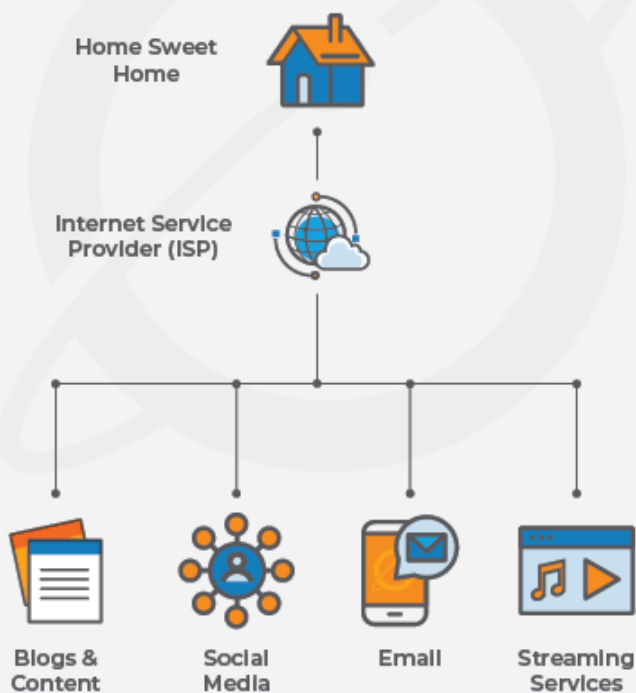


A municipal broadband service would greatly increase the City's ability to provide an internet service for residents and businesses with top tier data privacy. This is something that can't be achieved with an outside internet service provider, such as Comcast, because of their vast network and lack of accountability to the City. By having our own network, we can better protect our online data while also providing a safe space for everyone to browse.

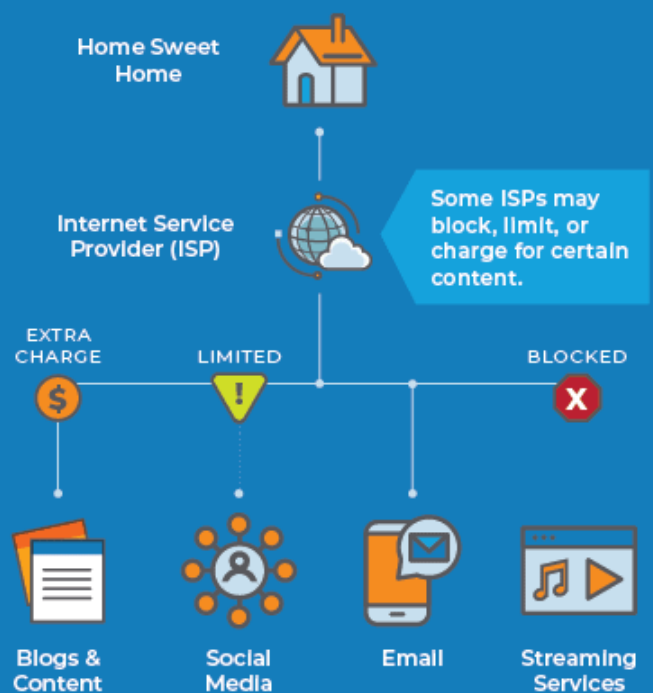


Another major benefit of municipal broadband is the increased data protection and the promise of [net neutrality](#) – the principle that an internet service provider must ensure access to all sites, content, and applications at the same speed, under the same conditions without blocking or giving preference to any content. This would make sure that everyone is able to access all parts of the internet without hindrance, creating a more equal internet with more access to information of all kinds.

WITH Net Neutrality



WITHOUT NET NEUTRALITY



Here's What We Learned:

- The estimated cost to bring broadband to Cambridge through FTTP (Fiber to the Premises) is \$194 million
 - Cambridge could lower this cost by entering into a public private partnership with a commercial entity and reduce its risk by relying on them to lease the fiber and run the business side of the broadband. This would reduce the City's cost to an estimated \$150 million. This outside entity would be responsible for maintenance and equipment refreshments
- The estimated construction timeline is 5 years, but residents can start accessing the municipal broadband as it is built out, and we can prioritize neighborhoods based on need
- The estimated “take rate” – amount of people that will subscribe to municipal broadband is 40%
- The estimated cost per household/business/entity is \$70 per month (in line with Xfinity cost in municipalities where there is competition)
- The fiber network would extend over 130.3 route miles, with 80.9 miles on utility poles throughout the City and 49.4 miles underground

Potential Benefits:

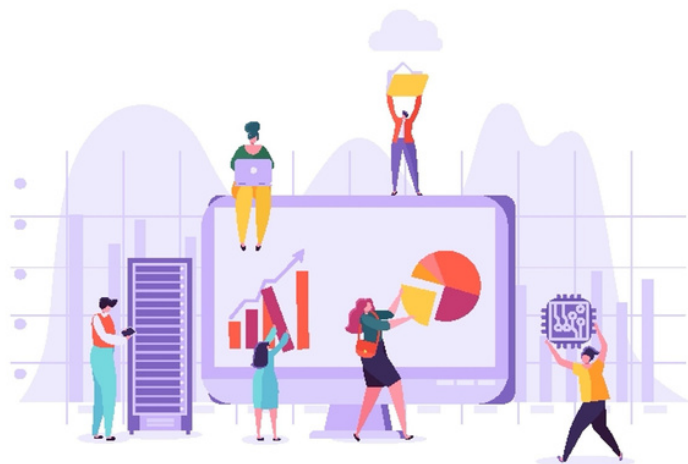
- Even if people don't choose to opt in to the municipal broadband service, removing Comcast's current monopoly will positively impact current Comcast customers through:
 - Increased customer service
 - Lower rates to compete with new service providers
 - Improved quality of service
- Municipal broadband would be the only provider offering symmetric speed, meaning that uploads and downloads would process at the same rate, something Comcast cannot do
- Symmetric speed also increases the reliability of the broadband service as well as the speed
- Future-proof broadband
 - The fiber that will be laid for the municipal broadband service will have longevity so long as it is maintained well (scheduled for every 10 years)
 - This is a long-term investment that future generations will be able to reap the benefits of as the internet becomes even more of an information highway



Where are we now?

CTC Technology & Energy is the consultant company chosen by the City to conduct the municipal broadband feasibility study that the City will use to determine if municipal broadband is a capital venture the City can invest in and if so, what kind of business model would best suit Cambridge to bring service to the City and align with the City Council's policy goals. A municipal offering could ensure policy goals that aren't being met in the market, including increased competition, digital equity, data privacy, and net neutrality.

Now that the feasibility study has concluded and the official report has been compiled and shared with the City, additional meetings to determine if implementation is next for Cambridge.



Where do we go from here?

City Manager Huang released an update following the presentation from CTC

- Read the press release [here](#)
- Read the full report from CTC [here](#)
- The City will continue to host meetings to discuss the possible implementation of a municipal broadband network and how to best move forward

TIMELINE AND POTENTIAL NEXT STEPS

Below is an indicative 18 to 24 months roadmap that would occur once the City makes its initial “go-forward” decision

