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John Meyers
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MEMORANDUM

TO: Eileen Donoghue, City Manager *EMD*

FROM: Mirán Fernandez, Chief Information Officer

DATE: March 31, 2022

Re: **MOTION RESPONSE: 02/15/2022 by C. Leahy** – Req. City Mgr. Report To City Council Regarding Municipal Broadband Plan Throughout The City.

I write in response to C. Leahy’s motion requesting a report regarding municipal broadband plans throughout the City.

The original video cable service infrastructure within the City of Lowell was established by Continental Cablevision (which at the time was a Boston-based organization with a large infrastructure footprint throughout New England) servicing approximately 50% of the city. In 1996, Continental Cablevision was acquired by Media One, which expanded its coverage to 60% of the city along with expanding its offerings to include a heavy focus on cable modems as an Internet Service Provider (ISP) as there were no “broadband” services available within the city prior to this. In 2000, AT&T Broadband acquired Media One further expanding its coverage to 75% of the city. During 2002, Comcast acquired AT&T Broadband (and has since expanded its coverage to 100% of the city), and the Federal Communications Commission (FCC) removed ISP services from being subject to municipal/state franchise contracts, limiting the city’s negotiations to video franchise related matters, and excluding our ability to negotiate anything related to internet access services.

General speaking, the term broadband typically refers to techniques using a wide range of frequencies to enable internet connectivity, delivered via a variety of methods (e.g., cable, fiber, cellular, etc.). As the defining source, the FCC has maintained and reaffirmed on multiple occasions since 2015 that the minimum broadband speed should remain at 25 megabits per second for downloading files, and 3 megabits per second for uploading them. Realistically, these speeds are considered well below what most internet users might consider “high speed”, a reality that was highlighted by the pandemic-related shift to educating students in their homes and workers being forced to work from home. While many parts of the country are surprisingly still subject to internet access speeds at or below the FCC minimum, the pandemic shed significant light on the need for broadband reform across the country in order to provide higher connectivity speeds to the internet. As a result of this disconnect, Congress recently initiated reforms which

took authority for broadband expansion planning away from the FCC and gave it to the states so that decisions would better reflect local concerns.

While these reforms are expected to be considerably transformative, they will take time to reach critical mass and truly effect change. There is a growing consensus among Congressional Senators requesting that the FCC change their broadband definition to demand higher speeds. Congress has approved \$65B in broadband spending to finance expansion of broadband over the next ten years as a part of the recent \$1T infrastructure spending package, with most of the money available through grants to states. Additional broadband funding has also been included as a component of current ARPA funding. As of today, most states are still grappling with how to leverage this funding to improve residents' lives. While the Commonwealth is one of the few states with a well-established group focused on improving the state's broadband needs (the Massachusetts Broadband Institute), it is primarily focused on bringing broadband to unserved communities in western and central Massachusetts.

At the local level, various initiatives have been brought forth focused on providing the city's residents with faster broadband speeds including the following (approximated dates):

- (2004) Request to provide additional Internet Service Provider (ISP) competition within the city. This request resulted in communications with various ISPs, with each of them declining to consider expanding their services into the city due to the significant capital expense investment necessary to do so.
- (2006) Request to have Verizon deliver ISP services within the city. This request resulted in communications with Verizon, which declined to consider expanding their services into the city due to the significant capital expense investment necessary to do so.
- (2008) Request to provide free hotspots within the city. This request resulted in the deployment of 17 city funded hotspots throughout the city for public use.
- (2011) Request to provide additional Internet Service Provider (ISP) competition within the city. This request resulted in communications with various ISPs, with each of them declining to consider expanding their services into the city due to the significant capital expense investment necessary to do so.
- (2013) Request for additional hotspot capacity for visitors. This request resulted in Comcast deploying 117 additional xfinity hotspots throughout the city, with an emphasis on attractions including the Lowell Memorial Auditorium, Spinners Ballpark, Tsongas Arena, Merrimack St corridor, and various Lowell National Park areas.
- (2014) Request to explore the delivery of free Wi-Fi for Lowell's downtown neighborhood. This request resulted in an in depth report indicating a 5-year cost to the city of approximately \$2.6MM to deliver services through a downtown corridor of

approximately 2,000 feet. MIS' recommendations at the time were that the city pursue a vendor-built, maintained, and managed model. Based on costs, no further action was pursued.

- (2015) Request to have Verizon deliver FiOS services within the city. This request resulted in communications with Verizon, which explained that they have no plans to expand FiOS to any new communities or beyond its current footprint.
- (2015) Request to have the city offer its own ISP services similar to Verizon FiOS throughout the City. This request resulted in a feasibility study draft request for proposal without which the final cost of actually implementing such an enterprise business unit may cost, while noting that similar projects across the country have tended to run in the range of \$200MM - \$800MM in startup costs alone. Based on costs, no further action was pursued.
- (2016) The city met with Verizon to discuss various emerging “smart city” technologies.
- (2016) The city met with Philips to discuss the future demand of wireless data and the impact it will have on municipal infrastructure across the country.
- (2016) The Markley Group moved into the site of the old Prince Spaghetti factory, establishing a comprehensive, state-of-the-art, mission-critical data center facility with high-speed regional internet connectivity.
- (2017) The city met with Verizon re “smart city” technologies. Verizon explained that they would likely be leveraging 5G as a broadband access alternative in the future.
- (2018) The city issued a formal RFP seeking proposals from qualified vendors to build and operate a community-wide high speed, robust, and well-designed fiber-to-the-premises (FTTP) network over an open access fiber network for residents, business, government, and community anchor institutions located within the city and at no cost to the city.
- (2019) Request to provide additional Internet Service Provider (ISP) competition within the city. This request resulted in communications with various ISPs, with each of them declining to consider expanding their services into the city due to the significant capital expense investment necessary to do so
- (2019) Request to plan, design, and build the city’s own municipal broadband network. This request was combined with the earlier issued RFP. Following significant review, the RFP was awarded to SiFi Networks America.
- (2020) As negotiations with SiFi Networks America stalled on several points, the City Council voted to cease further contract negotiations with SiFi Networks America.

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- (2020) Request to work with Comcast for improved internet services for Lowell Public Schools. This request resulted in the deployment of Comcast's Internet Essentials Partnership Program (IEPP) throughout the school district, allowing families to receive free and reliable internet access to promote remote learning. Comcast also donated 100 computers to high school seniors to use as they continued into college or specialized training.

While the reason most commonly cited by other ISPs for not wanting to enter the Lowell geographic area tends to be the initial capital outlay costs related to cabling up the area for services, rapidly evolving technology seem to be poised to change this. Across the country, ISPs have begun shifting away from the use of cables for the "last mile" of connectivity, and are now transitioning to the use of 5G.

Since the end of contract negotiations with SiFi Networks America along with the onset of the pandemic, the city's pursuit of broadband plans has been limited to working with the Lowell Public Schools to support the IEPP program. MIS continues to monitor proposals made to the FCC, and funding opportunities which may become available through the Infrastructure spending package, and will inform the City Manager and City Council of any new broadband initiatives which may help improve access to the internet for the city's residents and businesses alike.

As 5G and other wireless services continues to evolve, it is reasonable to expect that additional broadband competition might choose to enter the Lowell area within the next 1-3 year timeline, allowing for options other than those currently available through Comcast.

cc: Christine McCall, Assistant City Manager / DPD Director