

TESTIMONY REGARDING BROADBAND & THE DIGITAL DIVIDE

BEFORE THE NEW YORK CITY COUNCIL’S
COMMITTEE ON TECHNOLOGY
AND
SUBCOMMITTEE ON ZONING & FRANCHISES

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1. INTRODUCTION

Thank you for the opportunity to offer testimony.

The focus of today’s hearing – the digital divide – impacts everyone in New York City. Ensuring that as many people as possible are online and able to harness the transformative power of broadband in meaningful ways is essential to fostering economic opportunity, enhancing social justice, and assuring digital equity across every neighborhood and socioeconomic group.

The pandemic, ensuing lockdown, and subsequent economic fallout shined a bright light on those who, for an array of reasons, remain offline. The rapid shift to remote everything – work, schooling, healthcare, commerce – increased the chances that those on the wrong side of the digital divide would be left further behind. However, as so often happens in New York City during a crisis, the City rose to meet these challenges. In partnership with companies like Apple and T-Mobile, the City helped provide hundreds of thousands of previously unconnected students with devices and Internet connectivity so they could continue seamlessly with their schoolwork. Their teachers went above and beyond to offer a semblance of normalcy in the rush to remote education. Healthcare providers shifted to telehealth consultations to lower the chances of exposing their patients and themselves to the deadly pathogen. Businesses required millions of employees to work from home for the same reason. Restaurants and other small businesses leveraged delivery apps and similar digital tools to help keep their doors open.

Now, as the City considers what comes next, there is an opportunity to build on these *ad hoc* gains and entrench a culture of connectivity across every neighborhood. As these pandemic responses underscore, New York City is not lacking in broadband access options. When needed, a broadband connection of some kind – via a cable provider, a telephone company, a mobile carrier, a Wi-Fi hotspot, etc. – is available to just about every person across the five boroughs. The critical issues facing the City going forward are on the “demand side” – ensuring that those who are now online stay online and working to bring any remaining unconnected community members to broadband. Respectfully, this is where the Council, the Mayor, and the City as a whole need to focus their attention and the scarce resources that might be available.

2. COVID’S ECONOMIC TSUNAMI & THE LONG ROAD BACK

The Council is well aware of the profound economic headwinds facing the City in the wake of the pandemic:

- A \$9B budget shortfall this year and expected shortfalls in the billions for years to come.¹
- An unemployment rate of 16% in August 2020 (in August 2019, it was 3.8%).²

¹ See, e.g., *Comments on New York City’s Fiscal Year 2021 Adopted Budget*, New York City Comptroller, Aug. 3, 2020, <https://comptroller.nyc.gov/reports/comments-on-new-york-citys-fiscal-year-2021-adopted-budget/> (“Comptroller Comments”).

² See Press Release, *NYS Economy Added 96,300 Private Sector Jobs in August 2020*, NYS Dept. of Labor, Sept. 17, 2020, <https://labor.ny.gov/stats/pressreleases/pruistat.shtm>.

- Thousands of small business closures, with many more expected to come.³
- Ongoing residential flight, another strain on the City’s tax base.⁴
- A dramatic decrease in tourism, an important segment of the City’s economy.⁵
- Major “anchor” businesses are thinking of relocating now that working from home has proven to be possible and popular.⁶

These are on top of the myriad of baseline priorities that require the constant attention of policymakers:

- Shoring up an overtaxed public health infrastructure;
- Addressing the City’s crumbling stock of public housing;
- A continued lack of affordable housing;
- Increased crime;
- Increased homelessness;
- Inconsistent trash collection; and
- Ongoing upkeep of the City’s vast public infrastructure – *i.e.*, its roads, bridges, tunnels, water system, etc.⁷

Adequately addressing these issues will require billions of dollars that the City will not have access to for a long time. Indeed, as noted by Moody’s in its recent downgrade of New York City’s credit rating, it will likely take many years for the City’s economy to return to its pre-COVID stature.⁸

³ See, e.g., *Comptroller Comments*; Matthew Haag, *One-Third of New York’s Small Businesses May Be Gone Forever*, N.Y. Times, Aug. 3, 2020, <https://www.nytimes.com/2020/08/03/nyregion/nyc-small-businesses-closing-coronavirus.html>.

⁴ See, e.g., Jennifer A. Kingson, *The Abandonment of New York City*, Axios, Aug. 23, 2020, <https://www.axios.com/new-york-city-abandoned-378fc5d8-9af4-447b-8e7e-df1b27da50e5.html> (“*The Abandonment of New York City*”).

⁵ See Ceylan Yeginsu and Derek M. Norman, *‘If No Tourists Come, I Have No Business’: New York’s Tourism Crisis*, N.Y. Times, Oct. 9, 2020, <https://www.nytimes.com/2020/10/09/travel/nyc-tourism-travel-restrictions.html>.

⁶ *The Abandonment of New York City*.

⁷ See, e.g., *Caution Ahead: Five Years Later*, Center for an Urban Future (Aug. 2019), https://nycfuture.org/pdf/Caution_Ahead_5_Years_Later.pdf.

⁸ See *Moody’s Downgrades New York and Warns of Long Return to Normal*, Crain’s New York, Oct. 1, 2020, <https://www.craigslist.com/economy/moodys-downgrades-new-york-and-warns-long-return-normal>.

This revenue crunch is already being felt within city government – *e.g.*, furloughs and possible permanent job losses loom for tens of thousands;⁹ there has been uncertainty about making scheduled payments to teachers¹⁰ – and reverberating in the community – *e.g.*, quality of life complaints have soared.¹¹

Any discussion regarding broadband in New York City, and especially those that raise the possibility of the City expending public funds to build new broadband infrastructure, must take place against this unfortunate economic backdrop. At a time when the City is unsure of whether it can pay its teachers; when it is cutting back on core public services like policing and trash collection; when tax revenue will remain depressed for years to come; when businesses large and small are closing; and when such public intervention into the broadband market, especially a market as competitive as the one here, remains an incredibly risky endeavor, it is foolhardy to pursue any plan for “improving” broadband that would take away much-needed, scarce resources from other, more pressing priorities.

3. BROADBAND IN NEW YORK CITY

Within this context, addressing digital divide issues might seem bleak. However, as noted above and discussed in more detail below, there is considerable reason for optimism in light of (1) the wide availability of broadband across the City and (2) increasing broadband adoption rates across every demographic group. Work remains to be done, but the City is well positioned to continue closing the digital divide *provided* it takes a leadership position on key demand side issues and actively works with incumbent ISPs to address any remaining supply side (*i.e.*, availability) issues.

3.1 *Broadband Availability in New York City*

Multiple options for broadband Internet access exist across every part of New York City. According to FCC data, wireline broadband (*i.e.*, cable, DSL, fiber) is available to over 99.99% of households across the five boroughs, while mobile broadband is universally available.¹²

In terms of competition and consumer choice, households across the City have multiple options for going online. According to an analysis of broadband data released by the Mayor in January 2020, every neighborhood in New York City has more than one wireline option for broadband

⁹ See, *e.g.*, Katie Honan, *New York City Postpones Layoffs for 22,000 Workers*, Wall St. Journal, Aug. 31, 2020, <https://www.wsj.com/articles/new-york-city-postpones-layoffs-for-22-000-workers-11598882972>.

¹⁰ See, *e.g.*, *Arbitrator Orders New York City to Pay \$900M in Deferred Wages to Teachers Union*, ABC7NY.com, Oct. 10, 2020, <https://abc7ny.com/uft-nyc-teachers-wages-union-deferred/6903116/>.

¹¹ See, *e.g.*, Ben Chapman, *New York City Business Groups Add Private Security as Crime Rises*, Wall St. Journal, Sept. 14, 2020, <https://www.wsj.com/articles/new-york-city-business-groups-add-private-security-as-crime-rises-11600082947>.

¹² ACLP Analysis of FCC Form 477 Data – Fixed Broadband Deployment, June 2019, <https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477>; ACLP Analysis of FCC Form 477 Data – Mobile Deployment, June 2019, <https://www.fcc.gov/mobile-deployment-form-477-data>.

available in it, with the average number of providers being two across all five boroughs.¹³ According to the FCC, almost 100% of the City’s population – some 99.94% – can choose from at least three mobile broadband providers.¹⁴

In terms of speeds and pricing, there is considerable evidence indicating that consumers across the board are paying less for faster service. According to one recent analysis, the price of wireline broadband service has dropped by between 20% and 37%, depending on the offerings, over the last five years.¹⁵ A similar dynamic is evident in the market for mobile broadband, a service that has fast become a viable substitute for a wireline connection. In recent years, average download speeds over the 4G networks of AT&T, T-Mobile, and Verizon have topped 25 Mbps.¹⁶ In addition, most carriers now offer unlimited data packages for those who do not wish to run afoul of monthly data caps.¹⁷ These trends reflect consumers’ embrace of wireless broadband as a critical (and often preferred) on-ramp to the Internet, a dynamic that will accelerate as 5G is deployed.¹⁸

There are numerous options for those who struggle to pay for an available broadband connection. Each of the City’s major ISPs offer discounted monthly service for qualifying low-income households: Altice Advantage offers 30 Mbps for \$14.99 per month;¹⁹ Spectrum Internet Assist offers the same speed and price;²⁰ and Verizon offers 200 Mbps for \$19.99 per month.²¹ Similar offerings are available from mobile broadband ISPs. T-Mobile’s Project 10Million, for example, is providing free mobile broadband access to 10 million low-income students.²² The FCC’s Lifeline program offers subsidies of \$9.25/month to help offset these costs.²³

In sum, residents across the City can choose from multiple options for affordable broadband service.

¹³ See *Internet Master Plan: Adoption and Infrastructure Data by Neighborhood*, NYC Open Data, <https://data.cityofnewyork.us/City-Government/Internet-Master-Plan-Adoption-and-Infrastructure-D/fg5j-q5nk/data> (“Adoption and Infrastructure Data by Neighborhood”).

¹⁴ ACLP Analysis of FCC Form 477 Data – Mobile Deployment, June 2019, <https://www.fcc.gov/mobile-deployment-form-477-data>.

¹⁵ See Arthur Menko, *2020 Broadband Pricing Index*, U.S. Telecom – The Broadband Association (Sept. 2020), <https://ustelecom.org/wp-content/uploads/2020/09/USTelecom-2020-Broadband-Pricing-Index.pdf>.

¹⁶ See *Mobile Network Experience Report – USA*, January 2020, OpenSignal, <https://www.opensignal.com/reports/2020/01/usa/mobile-network-experience>.

¹⁷ See, e.g., Jeffrey Van Camp and Matt Jancer, *What’s the Best Unlimited Data Plan?*, July 10, 2020, Wired, <https://www.wired.com/story/best-unlimited-data-plans/>.

¹⁸ See *Internet/Broadband Fact Sheet*, June 12, 2019, Pew Research Center, <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>.

¹⁹ Altice Advantage, <https://www.alticeadvantageinternet.com/>.

²⁰ See Rebecca Lee Armstrong, *Are There Programs Available to Make Internet Service More Affordable?*, HighSpeedInternet.com, Oct. 1, 2020, <https://www.highspeedinternet.com/resources/are-there-government-programs-to-help-me-get-internet-service>.

²¹ Verizon, Low Income Internet, <https://www.verizon.com/info/low-income-internet/>.

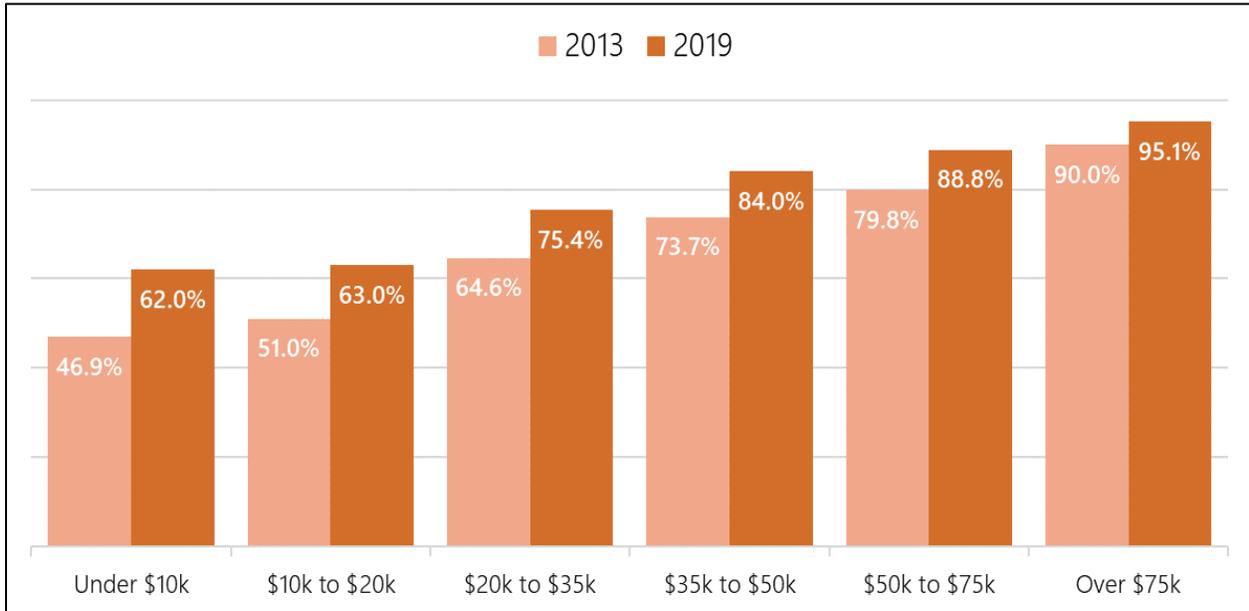
²² T-Mobile, Project 10Million, <https://www.t-mobile.com/business/education/project-10-million>.

²³ USAC, Lifeline Support, <https://www.lifelinesupport.org/>.

3.2 Broadband Adoption in New York City

Broadband adoption in New York City continues to improve. In 2019, 85% of households had adopted broadband, up from 74% in 2013.²⁴ As the following charts make clear, similarly robust gains are evident across every socioeconomic group:

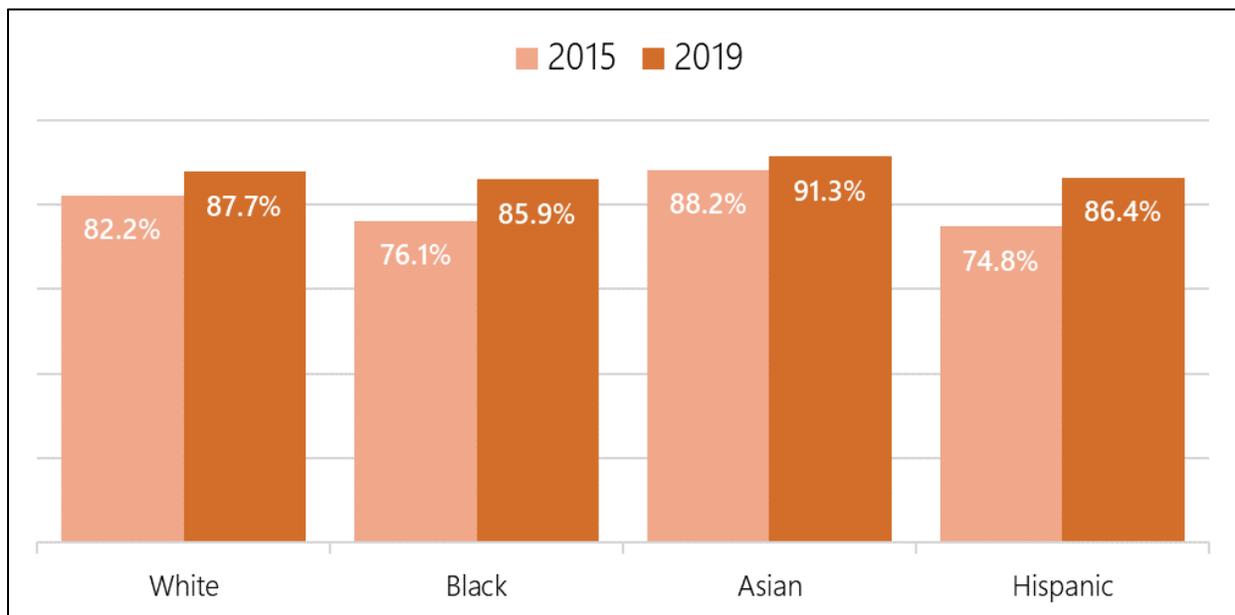
NYC Broadband Adoption by Household Income Category, 2013 & 2019²⁵



²⁴ See *Presence and Types of Internet Subscriptions In Household*, American Community Survey 1-Year Estimates, U.S. Census Bureau, 2013 & 2019, <https://data.census.gov/cedsci/table?q=internet&g=1600000US3651000&tid=ACSDT1Y2019.B28002>.

²⁵ See *Household Income in the Last 12 Months By Presence and Type of Internet Subscription in Household*, U.S. Census Bureau, 2013 & 2019, <https://data.census.gov/cedsci/table?q=internet&g=1600000US3651000&tid=ACSDT1Y2018.B28004&hidePreview=true>.

NYC Broadband Adoption by Race, 2015 & 2019²⁶



Notwithstanding these impressive gains, gaps in connectivity remain. However, a close look at the data reveals that these gaps are discrete and identifiable. For example, an analysis of Census data by the Mayor’s office has identified pockets of under-adoption in neighborhoods across the City.²⁷ Under-adopting neighborhoods dot the map and are oftentimes in close proximity to high-adopting neighborhoods. The charts above, based on the most recent Census data, identify additional aspects of the digital divide, in particular that broadband adoption positively correlates with household income. In addition, Census data also indicates that broadband adoption negatively correlates with age: the adoption rate by those over the age of 65 in New York City is 71.3%, compared to the overall rate of 85%.²⁸ In short, the contours of the City’s digital divide are clear and mirror trends evident in other cities and at the national level.²⁹

That the City’s digital divide is characterized by low levels of adoption in specific communities (low-income households and senior citizens) and not by a lack of available broadband – *i.e.*, that the digital divide is a demand issue and not a supply issue – has long been known to New York

²⁶ See *Types of Internet Subscriptions By Selected Characteristics*, American Community Survey 1-Year Estimates, U.S. Census Bureau, 2013 & 2019, <https://data.census.gov/cedsci/table?q=s2802&g=1600000US3651000&tid=ACSST1Y2019.S2802>.

²⁷ *Adoption and Infrastructure Data by Neighborhood*. It should be noted that the Mayor’s analysis uses 2017 ACS 5-year data, which aggregates ACS surveys collected between 2013 and 2017. Thanks to the continual increase in broadband adoption citywide that is observable in more recent ACS 1-Year data, adoption rates are likely currently higher than indicated in this analysis.

²⁸ See *Age by Presence of a Computer and Types of Internet Subscription In Household*, American Community Survey 1-Year Estimates, U.S. Census Bureau, 2019, <https://data.census.gov/cedsci/table?q=internet&g=1600000US3651000&tid=ACSST1Y2019.B28005>.

²⁹ See, e.g., *Internet/Broadband Fact Sheet*, Pew Research Center, June 12, 2019, <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>.

City government. Indeed, surveys and analyses going back to at least 2005 have found similar trends,³⁰ and local nonprofits and other groups working to connect the unconnected have confirmed these findings.³¹

That the City has yet to address these issues head-on is unfortunate. Targeted interventions – *e.g.*, supporting established nonprofits and community groups in their work to bring more people online; providing subsidies directly to the unconnected – might have significantly narrowed these gaps.

4. ADDRESSING THE CITY’S DIGITAL DIVIDE

Fortunately, it is not too late for the City to address these long-lingering but well-defined issues. Recommendations for immediate action targeting the discrete demand side issues that define the City’s digital divide and leveraging private, nonprofit, and philanthropic partners follow.

4.1 *Establish As City Policy That All Broadband Actions Must Focus On Addressing Demand-Side Issues First and Foremost*

The data are clear: for the last 15 years, New York City’s digital divide has been characterized by well-defined pockets of under-adoption among low-income households and older adults. However, rather than accept this reality and act expeditiously to address these issues, the City has instead focused almost exclusively on supply-side issues. Most of those actions – *e.g.*, LinkNYC; free Wi-Fi in select NYCHA buildings – have failed to move the adoption needle in a significant way in under-adopting communities.

At the same time, the City’s rapidly growing tech sector has drawn attention to a growing skills gap that threatens the ability of residents to compete for and secure high-paying jobs in this increasingly important segment of the economy. In response, groups like Tech:NYC and the Partnership for New York City, among others, have called on the City to bolster digital skill development across every phase of a person’s educational and professional life.

As such, it is long past time for the City to establish a policy of addressing broadband adoption and digital literacy issues first and foremost.

4.2 *Endeavor to Understand the Many Factors Impacting Broadband Adoption Decisions*

Addressing demand-side issues in a meaningful way requires a better understanding of the many factors influencing broadband adoption decisions. As has been chronicled extensively elsewhere,

³⁰ See, *e.g.*, *New York City Broadband Landscape and Recommendations – Summary Overview*, Diamond Consultants (July 2008) (on file with the ACLP).

³¹ See, *e.g.*, Paula J. Gardner, *Older Adults and OATS Computer Training Programs – A Social Impact Analysis*, The New York Academy of Medicine (April 2010), <https://oats.org/older-adults-and-oats-computer-training-programs-a-social-impact-analysis-findings-report/> (“OATS Computer Training Programs”).

broadband adoption decisions are influenced by much more than just the cost of a broadband connection.³² Among the considerations impacting broadband adoption decisions are:

- A perception that broadband is relevant to one’s life and therefore a valuable investment of resources;³³
- The cost of a computing device to harness a broadband connection (e.g., laptop, desktop, tablet, etc.);³⁴
- A sense that being online is safe (i.e., lack of fear about security and privacy threats);³⁵ and
- Being digitally literate and “ready.”³⁶

For many years, the City has approached digital divide issues almost exclusively from the vantage that adoption levels in certain communities are low because broadband is too expensive. However, as previously noted, even the provision of free wireless Internet access in low-income areas hasn’t closed the digital divide. Introducing more nuance into its connectivity strategy by addressing the array of factors impacting adoption decisions will likely go a long way toward making up ground in the push to bring more people online.³⁷

4.3 *Require All Public Resources Made Available For Broadband Be Used to Support Targeted Demand-Side Solutions*

To the extent that public resources are made available for broadband purposes, it is respectfully submitted that such resources should be directed in support of targeted demand-side solutions. Even if such funding is understandably limited in size due to the enormous financial headwinds and myriad challenges facing the City over the next few years, those broadband-focused resources, if wisely invested, will have maximum impact on closing the digital divide if they are channeled toward boosting broadband adoption.

³² See, e.g., John B. Horrigan, *Reaching the Unconnected: Benefits for Kids and Schoolwork Drive Broadband Subscriptions, But Digital Skills Training Opens Doors to Household Internet Use for Jobs and Learning*, Technology Policy Institute (Aug. 2019), https://techpolicyinstitute.org/wp-content/uploads/2019/08/Horrigan_Reaching-the-Unconnected.pdf (“*Reaching the Unconnected*”).

³³ See Rafi Goldberg, *Unplugged: NTIA Survey Finds Some Americans Still Avoid Home Internet Use*, April 15, 2019, NTIA, <https://www.ntia.gov/blog/2019/unplugged-ntia-survey-finds-some-americans-still-avoid-home-internet-use>

³⁴ Like broadband, computer ownership tends to correlate with certain demographic and socioeconomic factors. See, e.g., Camille Ryan, *Computer and Internet Use in the United States: 2016*, at Table 4, U.S. Census Bureau (Aug. 2018), <https://www.census.gov/content/dam/Census/library/publications/2018/acs/ACS-39.pdf>.

³⁵ See, e.g., Rafi Goldberg, *Lack of Trust in Internet Privacy and Security May Deter Economic and Other Online Activities*, May 13, 2016, NTIA, <https://www.ntia.doc.gov/blog/2016/lack-trust-internet-privacy-and-security-may-deter-economic-and-other-online-activities>.

³⁶ *Reaching the Unconnected*. See also John B. Horrigan, *Digital Readiness: Nearly One-Third of Americans Lack the Skills to Use Next-Generation “Internet of Things” Applications*, June 2014, https://jbhorrigan.weebly.com/uploads/3/0/8/0/30809311/digital_readiness.horrigan.june2014.pdf.

³⁷ There is considerable evidence that such comprehensive strategies work in practice. See, e.g., *OATS Computer Training Programs; Reaching the Unconnected*.

Specifically, the bulk of available City funding should be used to support nonprofits working to bring more people online and to help new users develop essential digital literacy skills. New York City is home to a remarkable range of such organizations, many of which have impressive track-record of connectivity among low-income individuals and senior citizens. A coalition of these groups – formerly known as the Social Impact Technology Network (SITN) and currently known as the Digital Equity, Adoption and Literacy (DEAL) Coalition – has apprised the City Council and the Mayor’s office on numerous occasions about the value of directing more funding to support this critical work.³⁸ The City Council deserves credit for funding some of these initiatives via its Digital Inclusion and Literacy Initiative, but more resources are needed.

Some amount of available funding might also be used to seed a pilot program aimed at providing broadband subsidies directly to unconnected households. As previously noted, a range of discounted broadband offerings and subsidy programs already exist, so a City-led offering could help to offset the cost of an access device. Indeed, a qualifying unconnected household could avail itself of a discounted broadband offering from, say, Altice and pair that with a Lifeline subsidy, lowering the monthly cost of a 30 Mbps cable connection to less than \$6. An additional City subsidy – perhaps a one-time payment – could be used to help purchase a laptop or tablet.

Finally, the City should leverage its bully pulpit to supplement public resources with philanthropic and private sector funding. The City regularly engages in such partnerships via the Mayor’s Fund to Advance New York City and should establish and seek funding for an initiative focused specifically on enhancing digital literacy and closing the digital divide.

4.4 *Engage in Administrative Reforms to Streamline Access to Resources by Expert Nonprofits*

If and when additional resources are made available to nonprofits and others for the purpose of expanding outreach and digital literacy training, it will be essential for the City to review and revise its byzantine rules for accessing those funds. As has been noted by the DEAL Coalition, such rules greatly hamper the ability of small nonprofits – the heart of the City’s burgeoning community of digital literacy groups – to apply and successfully compete for funding, contracts, and related City-sponsored activities.³⁹ Streamlining those rules and otherwise making it easier for small nonprofits to access these kinds of opportunities will greatly benefit the communities these organizations serve.

³⁸ See, e.g., Michael J. Santorelli, *Testimony Regarding Broadband Access and the Digital Divide*, New York City Council’s Committee on Technology, April 23, 2012 (on file with the ACLP); *Response by the DEAL Coalition to City’s Broadband RFI*, Jan. 19, 2018, <http://comms.nyls.edu/ACLP/NYC-RFI-Submission-DEAL-Principles-January-19-2018.pdf>.

³⁹ See *Letter from the DEAL Coalition to the Mayor’s Office of the CTO*, June 29, 2018, <http://comms.nyls.edu/ACLP/DEAL-Coalition-Follow-Up-Letter-June-29-2018.pdf>.

4.5 Partner with ISPs to Address Any Remaining Gaps in Broadband Availability

To the extent certain parts of neighborhoods remain without access to a broadband connection, the City should, in the first instance, seek to partner with incumbent ISPs to address those issues. Instances of households without any access to a broadband connection are likely to be exceedingly rare in a City where, as previously noted, multiple options for broadband exist. However, there might be formerly commercial areas that have been rezoned for residential use that lie outside of an ISP's franchise territory, or a building's owner might, for whatever reason, refuse to let an ISP wire it. In those instances, working directly with ISPs as a first step will likely lead to a solution more quickly and more cost effectively than if the City attempted to fill those gaps in an alternative manner (e.g., by building its own network).

4.6 Appreciate that Expansive Government Intervention into the Broadband Market is Fraught with Unnecessary Risk

Over the years, it has been suggested that the only way to close New York City's digital divide is for the City to construct a public broadband network.⁴⁰ Such a network, it is argued, is the only way to deliver fast, cheap broadband to every resident in the City. Universal access to more "affordable" broadband, the reasoning goes, will appeal to the unconnected, convince them to go online, and thereby "solve" the divide.

For the many reasons discussed above in sections 3.1, 4.1, and 4.2, this reasoning is deeply flawed. Moreover, previous attempts by the City to deliver fast, cheap Internet access have fizzled vis-à-vis closing the digital divide.

Equally as important, efforts by other city governments to "solve" broadband issues by building their own networks often fail.⁴¹ Indeed, the history of municipal broadband in the United States is littered with failed systems, and those that do not fail rarely thrive. To the contrary, many end up becoming financial albatrosses for their city, leading to credit downgrades and similar negative outcomes for municipalities.

Some argue that, because New York City is unique in many ways, citing to examples of failed municipal broadband systems in places like Bristol, VA; Davidson, NC; Lake County, MN; Opelika, AL; and Salisbury, NC, are of little interest or relevance to local officials. But these and other examples of failed or struggling systems must be kept in mind by City officials because if a

⁴⁰ See, e.g., *The New York City Internet Master Plan*, NYC Mayor's Office of the CTO (Jan. 2020), https://tech.cityofnewyork.us/wp-content/uploads/2020/01/NYC_IMP_1.7.20_FINAL-2.pdf; Council Member Justin Brannan, *Give NYC Universal Broadband Now*, N.Y. Daily News, Sept. 21, 2020, <https://www.nydailynews.com/opinion/ny-oped-give-nyc-universal-broadband-now-20200921-xyt5mtpzzreblfpxgtmltbot5i-story.html>.

⁴¹ See, e.g., Charles M. Davidson & Michael J. Santorelli, *Understanding the Debate over Government-Owned Broadband Networks: Context, Lessons Learned, and a Way Forward for Policy Makers*, ACLP at New York Law School (June 2014), <http://comms.nyls.edu/ACLP/ACLP-Government-Owned-Broadband-Networks-FINAL-June-2014.pdf>; Michael J. Santorelli & Alexander Karras, *The Value of Context & Rigor: A Review of OTI's Cost of Connectivity 2020 Report*, ACLP at New York Law School (July 2020), <http://comms.nyls.edu/ACLP/ACLP-Review-of-OTI-COC-2020-Report-July-2020.pdf>.

municipal system cannot sustain itself in a city like Opelika, AL, which is home to about as many people as Maspeth, then the chances of a public broadband network working in New York City are likely very low.

5. CONCLUSION: THE CITY MUST SEIZE THIS OPPORTUNITY TO CLOSE ITS DIGITAL DIVIDE ONCE AND FOR ALL

For as much damage as the pandemic caused, it has presented the City with an opportunity to rethink how it approaches certain issues. Among these is broadband connectivity. As discussed at length in these comments, the City must prioritize any available resources to addressing demand side issues if it is truly serious about closing its digital divide once and for all. Continuing to focus on supply side issues distracts from what are difficult but ultimately solvable broadband adoption issues.