Subcommittee on Zoning & Franchises

Julie Lubin, General Counsel

Jeffrey Campagna, Dep. General Counsel

Malaika Jabali, Senior Counsel

Kaitlin Greer, Legislative Coordinator

Luke Zangerle, Finance Analyst

Committee on Technology

Irene Byhovsky, Legislative Counsel

Charles Kim, Legislative Policy Analyst

Florentine Kabore, Finance Analyst

 

**THE COUNCIL**

**Briefing Paper and Committee Report of the**

**Land Use and Infrastructure Divisions**

*Raju Mann, Director, Land Use*

*Jeffrey Baker, Legislative Director*

*Terzah Nasser, Deputy Director, Infrastructure*

**SUBCOMMITTEE ON ZONING AND FRANCHISES**

Hon. Francisco P. Moya, Chair

**COMMITTEE ON TECHNOLOGY**

Hon. Robert F. Holden, Chair

**October 13, 2020**

**OVERSIGHT:** **Broadband and the Digital Divide**

**Preconsidered Res. No.**

**Application number** 20215008 GFY By Council Members Salamanca and Moya (at request of the Mayor)

**Title:** Proposed authorizing resolution submitted by the Mayor pursuant to Section 363 of the Charter for the granting of franchises for the provision of telecommunications services.

**I. Introduction**

On October 13, 2020, the Subcommittee on Zoning and Franchises chaired by Council Member Moya jointly with the Committee on Technology chaired by Council Member Holden will hold an oversight hearing titled “Broadband and the Digital Divide”. This hearing will address the expansion of affordable internet to New York City (“the City”) residents. In addition to this oversight topic, the committees will hear the following authorizing resolution:

* Preconsidered Res. No. \_\_\_\_, By Council Members Salamanca and Moya (at request of the Mayor), a proposed authorizing resolution submitted by the Mayor pursuant to Section 363 of the Charter for the granting of franchises for the provision of telecommunications services.

Witnesses invited to testify include the New York City Department of Information Technology and Telecommunication (“DoITT”), the Mayor’s Office of the Chief Technology Officer (“CTO”), existing franchisees, industry representatives, advocates, and members of the public.

**II. Background**

The COVID-19 crisis is highlighting the economic and opportunity disparities between those with a home broadband subscription and necessary devices to connect to the internet and those without. With the start of the new school year that implements a blended learning model in which New York City public school students learn part of the week in person and part of the week online, as well as fully remote learning, access to high-speed internet is essential to ensure that students learning at home this school year do not fall behind. And as many offices telework for the foreseeable future, it is essential that New Yorkers teleworking are able to keep doing their jobs during a time of record unemployment. New Yorkers with COVID-19 risk factors may be required to go in person to places that also offer their services online, such as grocery stores or the post office, if they are unable to take advantage of online services.

1. *Internet Providers in New York City*:

Broadband internet in New York City is currently provided by a patchwork of services, however most residential broadband internet service is provided as an additional service by three cable television (“CATV”) providers who have franchises with the City.

These companies—Spectrum, Altice, and Verizon—run wires directly into people’s homes providing CATV. Internet services are provided on the same cable wire and are authorized by federal law and provisions in CATV franchise agreements allowing non-cable services.

1. *Access to Broadband Internet in New York City:*

The adoption of broadband internet is not evenly distributed across New York City. The ten community districts with the lowest percentage of households with broadband subscriptions are in some of the lowest-income areas of the city. Most of these community districts are in the south and central Bronx and in central Brooklyn. In addition, many households do not have a device that can connect to the internet or a sufficient number of devices for all family members to simultaneously use for work and remote learning. Eighteen percent of New York City households have no internet connection at home at all.[[1]](#footnote-1)

Brooklyn Community District 12 (Borough Park, Kensington, Ocean Parkway, and Midwood), Manhattan Community District 3 (Chinatown and Lower East Side), and Bronx Community District 5 (South Fordham, University Heights, Morris Heights, and Mount Hope) have the lowest percentage of households with a broadband subscription (54%, 55%, and 56%, respectively).[[2]](#footnote-2) In Brooklyn Community District 12, an estimated nearly 19,000 students are enrolled in public schools. Community Districts Manhattan 3 and Bronx 5 each have nearly 18,000 public school students enrolled.[[3]](#footnote-3)

The three community districts with the lowest number of households with a broadband subscription are Brooklyn Community District 12 (Borough Park, Kensington, Ocean Parkway, and Midwood) with 24,338, Bronx Community District 5 (South Fordham, University Heights, Morris Heights, and Mount Hope) with 25,897, and Brooklyn Community District 16 (Brownsville) with 26,676.[[4]](#footnote-4)

The residents of neighborhoods with the lowest share of households with broadband do not all fall into one racial or ethnic group. According to census survey data, the demographics are as follows. In Borough Park (Brooklyn Community District 12), whites are the largest percentage, at 71% of the population. In Chinatown/Lower East Side (Manhattan Community District 3), the largest racial or ethnic groups are whites (33%) and Asians (31%). Hispanic or Latino (69%) make up the majority in Morris Heights (Bronx Community District 5).[[5]](#footnote-5)

In the three neighborhoods with the highest percentage of Black residents citywide, only roughly two-thirds of households have broadband (68%, 59%, and 62% respectively).[[6]](#footnote-6) This rate of adoption is only slightly above the broadband subscription rate of 54% in the community district (cited above) with the lowest rate of adoption. The highest percentages of Black residents citywide are found in the following areas: East Flatbush (Brooklyn Community District 17), Brownsville (Brooklyn Community District 16), and Wakefield (Bronx Community District 12).[[7]](#footnote-7)

It is difficult for low-income New Yorkers to afford a broadband internet subscription. Nine of the ten community districts with the lowest percentage of households with broadband subscriptions have poverty rates higher than the citywide average (19%). The highest poverty rate among these ten Community Districts is Hunts Point (41%).[[8]](#footnote-8)

1. *Access to Devices that Connect to the Internet in New York City:*

In order to connect to the internet, residents need devices in addition to broadband subscriptions. Eleven percent of households citywide only had an internet connection at home through their smartphone.[[9]](#footnote-9) Nationally, roughly one in four (26%) low-income internet users only has access to a smartphone for home internet access, and 26% of users with a high school diploma or less can only access the internet through a smartphone.[[10]](#footnote-10) Having only a smartphone to connect to the internet to do schoolwork or to telecommute puts these users at a disadvantage, because it is often difficult to read assignments on a small screen or type out reports on a small keyboard. These users may also run into data overage charges if they use their smartphones for data-heavy applications such as video conferencing, and data plans might have insufficient stability and bandwidth.

Many New York City Public Schools students have faced challenges with internet access both before and during the COVID-19 pandemic. When the pandemic started, roughly 300,000 students in New York City public schools did not have access to devices that connect to the internet.[[11]](#footnote-11)

1. *Internet Access in New York City Housing Authority Buildings:*

Residents living in New York City Housing Authority (“NYCHA”) housing and low-income residents in private housing across the city are particularly unlikely to have broadband subscriptions at home or devices to connect to the internet. The community districts with the largest share of residents living below the poverty line are Bronx 1 and 2 (Mott Haven/Hunts Point), Bronx 3 and 6 (Belmont), and Bronx 5 (Morris Heights) at 41%, 40%, and 40% respectively.[[12]](#footnote-12) These community districts are also among the top ten with the lowest share of residents citywide of residents without a broadband subscription at home (57%, 57%, and 56%, respectively).[[13]](#footnote-13) Bronx Community Districts 1 and 2 are home to 26,213 NYCHA residents.[[14]](#footnote-14) In Bronx Community Districts 3 and 6, 19,217 people live in NYCHA housing, and 2,536 people live in NYCHA housing in Bronx Community District 5.[[15]](#footnote-15)

Most NYCHA buildings do not offer free internet service for residents. However, the Economic Development Corporation (EDC) issued a Request for Expressions of Interests (due this past June) from internet service providers for free or low-cost internet service to NYCHA buildings.[[16]](#footnote-16) In July 2020, the Mayor announced a plan for expansion of internet service for $15 per month over the course of 18 months.[[17]](#footnote-17) The $157 million plan would extend service to 600,000 New Yorkers (including 200,000 in NYCHA), and the rollout would be targeted at the neighborhoods that need it most, including East New York and Brownsville.[[18]](#footnote-18)

Moreover, CTO and NYCHA partnered with T-Mobile and LG Electronics USA to provide internet-connected tablets to older New Yorkers who live in NYCHA communities.[[19]](#footnote-19) They distributed about 10,000 internet-connected devices to elderly residents[[20]](#footnote-20) of NYCHA.[[21]](#footnote-21)

This expansion of internet service in NYCHA properties builds on the 2016 City and Housing and Urban Development (HUD) ConnectHome initiative that piloted installation of Wi-Fi in Queensbridge Houses in both common areas and apartments. ConnectHome is an initiative started during the Obama Administration that partners with municipalities to provide affordable internet to HUD-funded public housing residents.[[22]](#footnote-22) Spot On (a Stamford, CT company) installed internet in the Queensbridge Houses, and the development’s tenants were hired as part of the rollout to gain buy-in from other residents and get permission for routers to be installed in units.[[23]](#footnote-23) The initiative successfully connected nearly 7,000 residents to the internet.[[24]](#footnote-24) Other sites announced as part of the ConnectHome initiative were Red Hook Houses and Mott Haven Houses.[[25]](#footnote-25) The not-for-profit organization EveryoneOn has continued the ConnectHome initiative and funded internet installations at housing authorities across the country following the end of the Obama administration.[[26]](#footnote-26)

For NYCHA developments without internet, DoITT funded four mobile computer lab vans starting in 2012 to drive around NYCHA developments and provide access to the internet and devices. The vans have eight laptops, a printer/scanner, Wi-Fi, and an instructor. It’s unclear how far a range the Wi-Fi has outside the van itself. The first two vans started in 2012 and visited 18 sites biweekly, a third van was added in 2019, and a fourth in early March 2020. The vans have not been driving around since mid-March 2020 due to the need for social distancing.[[27]](#footnote-27) In addition to the mobile computer labs, DoITT implemented NYCHA Community Computer Centers at some NYCHA developments.[[28]](#footnote-28)

**III. How Lack of Internet at Home Affects Students**

Students without home internet access or devices to connect to the internet struggle to complete their homework even without the additional challenges created by a global pandemic. During normal times, students have had to sit outside school buildings, come home late at night from public libraries, or spend money on food at noisy fast-food restaurants in order to connect to the internet. Students have anecdotally reported having difficulty completing assignments because they could not connect to the internet or because the environment was not conducive to studying.[[29]](#footnote-29) Nationally, 17% of students ages 13–17 have reported often or sometimes being unable finish their homework because they don’t have computer or internet access. There’s a divide along racial lines, too—25% of Black teenage students reported being unable to finish their homework due to lack of computer or internet access compared to 13% of white teenage students.[[30]](#footnote-30)

At the onset of the COVID-19 pandemic, most options for connecting to the internet outside the home disappeared with schools, libraries, and restaurants closing. In addition to the challenge of figuring out how to get students online for remote learning, both students and teachers had to implement online teaching within a very short time frame. Before the start of the pandemic, low-income (free/reduced-price lunch eligible) eighth grade students nationally were less likely to have had experience using the internet frequently for homework than their fellow classmates (46% and 56%, respectively). In addition, low-income students were more likely to be taught by teachers trained, but not already proficient, in software applications (45% to 42%) and trained, but not already proficient, in using computers in instruction (71% and 67%), making the learning curve among students and teachers for remote learning that much steeper.[[31]](#footnote-31)

Distance learning during the COVID-19 pandemic has been even more difficult for students experiencing homelessness. New York City family shelters do not have uniform access to the internet or devices for residents to use. The City Bar Justice Center (CBJC) surveyed current and former shelter residents and found that only 6% of respondents were able to connect to the internet through their shelter’s facilities. The CBJC recommends the installation of reliable Wi-Fi networks, devices to connect to those networks such as computers or tablets, and printers. Such an installation in shelters would help students complete their remote schoolwork and keep up with their peers as the COVID-19 pandemic continues. After the pandemic ends, this connectivity will help students in shelters complete homework assignments and apply for summer jobs.[[32]](#footnote-32)

In addition to barriers to online remote learning during the pandemic, special education students without internet access at home must learn without the face-to-face supports that many such students may have mandated under their Individualized Education Plans (IEPs). Parents of New York City special education students without internet have anecdotally reported juggling a cell phone in one hand while trying to help their student with therapy via video chat.[[33]](#footnote-33) These students are at risk of falling behind their classmates with home internet.[[34]](#footnote-34) As schools have reopened for either blended or fully remote learning in Fall 2020, some students with severe learning disabilities in District 75 will be in school for five days straight during alternating weeks, some will be in school two or three days per week, and some may be in school every day depending on the students’ need and disability.[[35]](#footnote-35) Thus, for most students with severe learning disabilities, home internet remains a necessity.

1. *Providing Access in Schools and Libraries:*

Schools and public libraries are places where people living in households without a broadband subscription can access the internet. In addition to being safe, dry, and climate-controlled, these facilities offer internet service without the expectation that a user makes a purchase, unlike many stores and restaurants that offer public Wi-Fi. Internet services in these spaces are publicly funded at the city and federal levels and through public-private partnerships.

When the City is not under COVID-19 restrictions, public schools are an important resource for students to access the internet. In October 2019, the New York City Department of Education (DOE) announced that they had increased the minimum public school bandwidth to 100 Mbps through upgrades of fiber infrastructure. They also updated hardware in schools to ensure they would be able to provide the full 100 Mbps speeds to students.[[36]](#footnote-36)

The DOE partnered with Sprint in 2017 to distribute free Wi-Fi mobile devices to over 30,000 high school students enrolled in Community Schools.[[37]](#footnote-37) The Sprint Foundation’s 1 Million Project donated the hotspots in September 2017. The students received three gigabytes of LTE data each month. If they went over the three gigabytes, they could still access unlimited 2G data, and students could use the devices until they graduated.[[38]](#footnote-38) This partnership is part of a Sprint Foundation initiative started in SY 2017–18 to provide internet-enabled devices to one million high school students over five years.[[39]](#footnote-39) However, such a low data cap would not be sufficient for the current remote learning environment, where the month’s data cap might be reached on a single two-hour videoconference call.[[40]](#footnote-40)

In addition to public schools, New York City’s three public library systems are resources for students who do not have broadband internet at home. The public library systems have a program to loan out 10,000 Wi-Fi mobile hotspots to New York City households without an internet connection. This program was funded by a $1 million donation from Google and a $500,000 grant from the Knight News Challenge (funded by the John S. and James L. Knight Foundation, Open Society Foundations, and Robin Hood Foundation) in 2014. Google also donated 500 Chromebooks for the libraries to distribute to children and teens participating in the libraries’ after school programs.[[41]](#footnote-41)

The library systems also have a program that targets public school students without an internet connection. In 2016, the library offered 5,000 hotspots to borrow for an entire school year. Families with a K–12 public school student are eligible to check out the hotspots, and most of the devices are lent out from 46 library branches across the City that are both close to Community Schools and in areas with low levels of internet subscriptions.[[42]](#footnote-42) The hotspots for the K–12 students were funded by President Barack Obama’s ConnectEd initiative, Google, and Sprint.[[43]](#footnote-43)

During the COVID-19 pandemic, the City’s public libraries still help provide patrons with internet access. The free, public Wi-Fi offered at each library branch in the five boroughs stayed on to help connect nearby residents to the internet. New Yorkers lucky enough to live near a branch could sometimes connect from home, and library patrons who needed to connect would gather outside the library building. And twenty Queens Public Library branches installed signal boosters so the Wi-Fi would reach up to 150 yards away from the buildings.[[44]](#footnote-44)

1. *Providing Access using Community Centers:*

Because of COVID-19 restrictions on public gatherings, using the internet services at schools, libraries, and community centers is no longer an option. Spectrum planned to open 40 community technology centers equipped with broadband internet, computers, and printers by 2020. Some of these centers are in schools, and students as well as parents or primary caregivers may use them. [[45]](#footnote-45)

1. *Verizon Teachers Discount and Low-Income Offer*

Verizon currently has a discount offer in which teachers can receive up to $15 discount per month on their home internet services.[[46]](#footnote-46) Verizon has also updated their commitment to providing low-income households with internet, extending their low-income Fios Internet program through 2020.[[47]](#footnote-47) Verizon’s low-income Fios Internet program gives qualifying Fios customers a $20 per month discount on their home internet service for as long as they remain eligible for the program, and it waives the first 60 days of router rental charges for new customers.[[48]](#footnote-48) Additionally, customers must qualify for Lifeline, a federal low-income assistance program designed to provide discounted broadband and telephone services to low-income households.[[49]](#footnote-49)

1. *Spectrum Remote Education Offer, Spectrum Internet Assist, and Altice Advantage*

Spectrum relaunched their free internet offer for new customers on September 21, 2020, providing free Spectrum internet and Wi-Fi access for 60 days to households with students and/or educators.[[50]](#footnote-50) The original Remote Education Offer, announced in March, also offered free internet for two months to new customers.[[51]](#footnote-51) Another program is the Spectrum Internet Assist, which is a low-cost broadband program available to low-income households and seniors, with speeds up to 30 Mbps.[[52]](#footnote-52) Eligible households must have members that receive benefits from the National School Lunch Program, its Community Eligibility Provision, or the Supplemental Security Income.[[53]](#footnote-53)

Altice also started an offer of 60 days of free Altice Advantage 30 Mbps internet access to new customers in March 2020. Customers were eligible for the free Altice Advantage service if a member of the household is eligible for the National School Lunch Program, attends a New York City public school, eligible for Supplemental Security Income and over 65 years of age, or a veteran receiving state or federal assistance.[[54]](#footnote-54)

**IV. Public/Private Partnerships to Address Digital Divide**

Several programs and partnerships are in place in New York City to address the digital access divide between lower-income and higher-income residents. These programs include both increasing access to devices that can connect to the internet and to a broadband subscription itself.

1. *Apple/DOE (2020):*

Apple and DOE formed a partnership at the onset of the COVID-19 pandemic.[[55]](#footnote-55) The DOE has worked to fill in the broadband gap left by the closure of schools, libraries, and community centers by loaning 321,500 LTE-connected iPads to students without devices or internet access at home. DOE spent $269 million on the iPads. Individual schools were responsible for collecting the iPads at the end of the 2019–20 school year and redistributing them to students who need them for the 2020–21 school year.[[56]](#footnote-56)

1. *T-Mobile/NYCHA Bronx partnership (2017­):*

The federal ConnectHome initiative supported a partnership between the City and T-Mobile through broadband connectivity rulemaking and technical assistance. This partnership brought internet-connected tablets to 5,000 families with school-aged children living in public housing in the Bronx starting in fall 2017.[[57]](#footnote-57) The program was paid for by the City and T-Mobile. T-Mobile donated $2 million to pay for the 5,000 tablets, and the New York City Department of Information Technology and Telecommunications (“DoITT”) paid $1.2 million for two years of high-speed data for the tablets.[[58]](#footnote-58) T-Mobile provided free trainings to tablet recipients to help them set up and use their devices. The New York Public Library expanded digital literacy trainings at branches in the Bronx close to NYCHA houses.[[59]](#footnote-59)

1. *Federal Communications Commission (FCC) Lifeline Program*

The FCC created the Lifeline program to partner with private telecom companies and provide discounted broadband and telephone services to low-income consumers. Currently Lifeline provides up to a $9.25 monthly discount for eligible low-income subscribers, permits a discount on either a wireline or a wireless service but not both, and prohibits more than one Lifeline service per household.[[60]](#footnote-60) This program is administered by the Universal Service Administrative Company (USAC). Consumers looking to participate must either have an income at or below 135% of the Federal Poverty Guidelines or participate in certain federal assistance programs such as the Supplemental Nutrition Assistance Program (SNAP).[[61]](#footnote-61) To account for the circumstances brought about by COVID-19, the Lifeline program has issued orders to ensure no current Lifeline subscribers would be involuntarily removed, and it temporarily waived the requirement for applicants to provide at least three consecutive months of income documentation. These changes are effective through November 30, 2020.[[62]](#footnote-62)

**V. Alternatives to Wire-Based Broadband Companies**

Alternatives to wire-based broadband could be a way to expand internet access to households that do not already have wired broadband subscriptions. Mesh networks are already in place in some New York City neighborhoods and could be expanded.

1. *Mesh Networks:*

Mesh networks function by installing rooftop antennae and routers or “nodes” on buildings close to each other to amplify an internet signal from a “hub.” The antennae and routers set up at nodes nearby receive the internet signal and connect to Wi-Fi routers inside the buildings for residents to use.[[63]](#footnote-63)

NYC Mesh is a not-for-profit organization that installs and maintains residential mesh networks in the East Village and Lower East Side of Manhattan and Greenpoint, Bushwick, Prospect Heights, and Sunset Park with nodes scattered around other parts of Manhattan. The cost to users is free, and NYC Mesh requests monthly donations from users if they can afford it.[[64]](#footnote-64) Pilot Fiber (one of the companies with an information service franchise agreement with the City[[65]](#footnote-65)) donated connections in 2019 to help extend NYC Mesh bandwidth in Brooklyn and Lower Manhattan and to support their network for both residential and business users. This is an example of one of the information service companies providing internet to home users (but as a donation to a not-for-profit organization that maintains the network).[[66]](#footnote-66)

The Red Hook Initiative is another community-run not-for-profit organization in Brooklyn that has connected that neighborhood, where 70% of residents live in public housing, through public Wi-Fi hotspots. Support for the mesh network increased after Superstorm Sandy when large sections of the neighborhood were without internet and mobile phone service. The Initiative has a training program for Digital Stewards from the community to perform maintenance and tech support on the network.[[67]](#footnote-67)

Mesh networks have also been used for businesses. The RISE:NYC competition initiative to support small businesses in areas affected most by Hurricane Sandy has given grants to the New America Foundation to install mesh networks for use by small businesses. So far, 18 small businesses in Gowanus, Brooklyn and Far Rockaway, Queens have been connected with plans to expand to Sheepshead Bay, Brooklyn, East Harlem, Manhattan, and the Bronx.[[68]](#footnote-68)

1. *Satellite internet:*

Many satellite constellations have been approved that aim to provide fast and reliable internet access across the globe. Previous satellite internet offerings have made use of geostationary orbit (35,000 km above the earth allowing satellites stay at a fixed spot above the earth) but suffered from issues of high latency due to the necessary round-trip travel time of data.[[69]](#footnote-69) Newer offerings such as Starlink are placing their satellite constellations in low Earth orbit (500-2000 km above earth) to mitigate this issue, but as a result many more satellites are required to achieve global coverage. While a similar program was introduced by Globalstar, Iridium, Odyssey, Teledesic and others in the 1990s, no program was successful.[[70]](#footnote-70)

Tesla and SpaceX founder Elon Musk established the Starlink project in 2015, aiming to provide low-cost, high speed internet access across the globe by way of a constellation of small mass-produced satellites in low Earth orbit.[[71]](#footnote-71) According to Starlink, the appeal of using satellites in low Earth orbit is to broadcast high speed internet to locations “where access has been unreliable, expensive, or completely unavailable”, with the project targeting service “in the Northern U.S. and Canada in 2020” and “rapidly expanding to near global coverage of the populated world by 2021.”[[72]](#footnote-72) As of July 2020, SpaceX has applied for permission to launch up to 42,000 Starlink satellites, with an end goal of gigabit internet speeds and a latency in the tens of milliseconds in an attempt to rival ground-based broadband connections. [[73]](#footnote-73)

Standard cable-based broadband packages usually offer download speeds of 20 to 100 Mbps. SpaceX claims that in beta tests Starlink satellites achieved download speeds of 100 Megabits per second (“Mbps”) with latency speeds “low enough to play the fastest online video games, and download speed fast enough to stream multiple HD movies at once and still have bandwidth to spare.”[[74]](#footnote-74) In slight contrast, according to a test conducted using Ookla’s speedtest.net tool and posted on Reddit, in beta testing, Starlink users reported achieving download speeds that ranged from 11 Mbps to 60 Mbps, with upload speeds ranging from 5 Mbps to 18 Mbps.[[75]](#footnote-75) For comparison, as of December 2018, average fixed-broadband speeds in the United States were 96.25 Mbps for downloads and 32.88 Mbps for uploads, Starlink’s early beta speed tests have shown encouraging signs.[[76]](#footnote-76)

Amazon, which has filed and approved by FCC to launch 3,236 spacecraft in its Kuiper constellation, also appears to be proceeding and plans to move its growing team into new facilities this year.[[77]](#footnote-77) In addition to providing ground station service directly to customers, Project Kuiper will also provide backhaul solutions for wireless carriers extending LTE and 5G service to new regions. The satellite technology may expand broadband access to more households in the United States.

**VI. Municipal Internet**

Many cities and towns across the US have taken the internet into their own hands to offer service as a public utility. The advantages to this strategy are to increase competition with incumbent internet companies to provide faster, more affordable, and more reliable service and increase service to areas where subscription rates are low or that may not be as profitable for those companies but nevertheless need internet service.[[78]](#footnote-78) The disadvantages to this strategy are the high start-up costs to the city or town and well-organized and well-funded political challenges from incumbent providers.[[79]](#footnote-79)

**VII. Broadening Access and Bridging Digital Divide in Other Jurisdictions**

The internet access gap is not unique to New York City, and cities around the country have implemented innovative solutions to ensure more of their residents are able to connect to the internet. For example, some cities have used public-private partnerships or have distributed computers and Wi-Fi hotspots to low-income residents in attempts to bridge this divide.

1. *Los Angeles, California:*

The City Council of Los Angeles has an initiative called OurCycleLA to refurbish donated used computers and laptops and distribute them to low-income households around the city. OurCycleLA formed a partnership in July 2017 with the HUD ConnectHome initiative to provide (as of February 2018) 500 refurbished computers and Wi-Fi mobile hotspots to families with a K–12 public school student living in Housing Authority of the City of Los Angeles (“HACLA”) apartments.[[80]](#footnote-80) Human-I-T, a Los Angeles-area nonprofit, partners with OurCycleLA to refurbish devices used in the program. Human-I-T has many corporate and educational donors (of money and/or used devices) listed on its website, including Google, Microsoft, and the University of Southern California.[[81]](#footnote-81)

1. *Mississippi:*

Rather than providing free broadband or devices to residents, Mississippi has encouraged companies to expand broadband access through a Broadband Technology Tax Credit. Devices that qualify for the tax credit (offered annually up to 10 years) include routers, servers, and fiber optic cables.[[82]](#footnote-82)

**VIII. Authorizing Resolution filed under Application Number 20215008 GFY**

**A.** **Analysis of Preconsidered Res. No. \_\_\_\_\_\_**

 Preconsidered Res. No. \_\_\_\_ is a proposed authorizing resolution submitted by the Mayor to the Council pursuant to Charter Section 363, for the granting of non-exclusive franchises for the installation of cable, wire and/or optical fiber and associated equipment on and in the inalienable property of the City (including through pipes, conduits and similar improvements thereto) to be used in providing one or more telecommunications services.[[83]](#footnote-83) The telecommunications services that such franchises would provide would be “Information Services” as such term is defined in the federal law.[[84]](#footnote-84) According to DoITT, “Information Services are high-speed voice and data franchises that are provided via city streets that are not cable television, public pay telephones, or mobile telecommunications services. These services include data transmission services utilized by businesses.”[[85]](#footnote-85)

The last Information Services franchise authorizing resolution adopted by the Council was Res. 1909 for the year 2013. According to information provided by DoITT, the following companies currently hold Information Services franchises granted pursuant to that authorizing resolution:

* RCN (Hi-Cap)
* Verizon (MCI) (Hi-Cap)
* AT&T (Hi-Cap)
* Century Link (Hi-Cap)
* Crown Castle (Hi-Cap)
* Optical Communications Group (Hi-Cap)
* Global Cloud Xchange (Hi-Cap)
* Zayo Group (Hi-Cap)
* Cablevision Lightpath (Hi-Cap)
* Stealth (Information Services)
* United Federal Data (Information Services)
* ExteNet (Information Services)
* Cleareon Fiber (Information Services)
* Zenfi (Information Services)
* Pilot Fiber (Information Services)

The proposed authorizing resolution would authorize DoITT to solicit Requests for Proposals (RFPs) or other solicitation for a period of five years from the date of adoption by the Counsel. Franchises granted in connection with such RFPs could be for a period of up to 15 years including all renewals.

The proposed authorizing resolution differs from Res. 1909 for the year 2013 in the following respects:

* The minimum criteria to be used by DoITT to evaluate RFP responses would be amended to include the financial, legal, technical and managerial experience and capabilities of the applicants; and
* New franchise agreements shall include written terms
* providing that compensation paid to the City, including facilities and services provided to the City, shall not be considered in any manner a tax and that applicants shall be required to pay any taxes owed under local or state law;
* providing that the franchisee shall make its books and records available on demand to the City for inspection; and
* providing that the franchisee shall provide maps and other information, including resiliency information, regarding locations of facilities in the inalienable property of the City.

**VII. CONCLUSION**

The Subcommittee on Zoning and Franchises and Committee on Technology look forward to testimony from the Administration, advocates and the industry as we work toward the goal of all city residents having affordable internet access with enough speed to telecommute, go to school online, and minimize the need to leave their homes for services during the current pandemic.

The Subcommittee on Zoning and Franchises and Committee on Technology also look forward to testimony illuminating the size of this Information Services market, the range of customers served by existing Information Services franchises, and the potential for market growth.

 Preconsidered Res. No. \_\_\_\_\_\_

By Council Members Salamanca and Moya (at request of the Mayor):

Proposed authorizing resolution submitted by the Mayor pursuant to Section 363 of the Charter for the granting of franchises for the provision of telecommunications services.

WHEREAS, by Executive Order 25, dated August 23, 1995, the Mayor has designated the Department of Information Technology and Telecommunications (“DoITT”) as the responsible agency for the granting of telecommunications franchises; and

WHEREAS, pursuant to Section 363 of the Charter (the “Charter”) of the City of New York (the “City”), the Commissioner of DoITT has made the initial determination of the need for franchises for telecommunications services; and

WHEREAS, the Mayor has submitted to the Council a proposed authorizing resolution for the granting of such franchises pursuant to Section 363 of the Charter; and

WHEREAS, the Council has determined that the granting of such franchises will promote the public interest, enhance the health, welfare and safety of the public and stimulate commerce by assuring the widespread availability of telecommunications services;

The Council hereby resolves that:

A. The Council authorizes DoITT, or any successor thereto, to grant non-exclusive franchises for the installation of cable, wire and/or optical fiber and associated equipment in the inalienable property of the City (including through pipes, conduits and similar improvements thereto) to be used in providing one or more telecommunications services (as that term is defined in Section C of this resolution) in the City.

B. For purposes of this resolution, “inalienable property of the City” shall mean the property designated as inalienable in Section 383 of the Charter. References herein to facilities “in the inalienable property” shall mean facilities located on, over or under the surface of such inalienable property.

C. The public services to be provided under such franchises shall be one or more “telecommunications services”, defined for the purposes of this resolution as the transmission of voice, data, information service and/or video signals, or any other form of wire communications or radio communications (as such terms are defined in subsections 59 and 40, respectively, of Section 3 of the federal Communications Act of 1934, as amended, or successor provisions thereto) but for purposes of this resolution “telecommunications services” shall not include any of the following: (i) “cable television services: as defined in the authorizing resolution adopted by the Council on May 15, 2012 as Resolution No. 1334, or any successor resolution thereto; (ii) “mobile telecommunications services” as defined in the authorizing resolution adopted by the Council on March 9, 2016 as Resolution No. 935 or any successor resolution thereto; and (iii) “public pay telephones” as defined in the authorizing resolution adopted by the Council on December 21, 2009 as Resolution No. 2309 or any successor resolution thereto.

D. All franchises granted pursuant to this resolution shall require the approval of the Franchise and Concession Review Committee and the separate and additional approval of the Mayor.

E. The authorization to grant franchises pursuant to this resolution shall expire on the fifth anniversary of the date on which this resolution is adopted by the Council (the “Expiration Date”). No franchises shall be approved pursuant to this resolution by DoITT, the Franchise and Concession Review Committee, or the Mayor pursuant to this resolution after the Expiration Date.

F. Prior to the grant of any such franchise, a request for proposals (“RFP”) or other solicitation shall be issued by DoITT. Prior to issuing any such RFP or other solicitation, all necessary environmental and land use review shall be conducted in accordance with City Environmental Quality Review (“CEQR”) and Section 197-c of the Charter. The criteria to be used by DoITT to evaluate responses to such RFP or other solicitation shall include, but not be limited to, the following to the extent permitted by law:

(1) the financial, legal, technical and managerial experience and capabilities of the applicant(s);

(2) the adequacy of the proposed compensation to be paid to the City; and

(3) the ability of the applicant(s) to maintain the property of the City in good condition throughout the term of the franchise and in a manner consistent with the City’s management of the public rights-of-way. In no event, however, shall DoITT include any criteria in any such RFP or other solicitation which the City would be preempted, pursuant to federal law, from thus including; and in no event shall DoITT apply any criteria to be included in any such RFP or other solicitation in a manner which the City would be preempted, pursuant to federal law, from thus applying.

G. Any franchise granted pursuant to this authorizing resolution shall be by written agreement which shall include, but not be limited to, the following terms and conditions to the extent permitted by law (provided however, that no term or condition, whether or not listed hereinafter, shall be included in a written franchise agreement if the City is preempted, by federal law, from including such a term or condition in such agreement, and provided that no term or condition, whether or not listed hereinafter, shall be included in a written agreement in a form or manner which the City is preempted by federal law from using with respect to such agreement):

 (1) the term of the franchise, including any option(s) to renew shall not exceed fifteen (15) years;

 (2) the compensation to be paid to the City shall be adequate and may include the provision of facilities or services to the City, or both. Such compensation shall not be considered in any manner in the nature of a tax, but such payments shall be made in addition to any and all taxes of whatever kind or description that are now or at any time hereafter may be required to be paid pursuant to any local law of the City or any law of the State of New York;

 (3) the franchise may be terminated or cancelled in the event of the franchisee’s failure to comply with the material terms and conditions of the agreement;

 (4) a security fund shall be established to ensure the performance of the franchisee’s obligations under the agreement;

 (5) the City shall have the right to inspect the facilities of the franchisee located in the inalienable property of the City and to order the relocation of such facilities at the direction of DoITT;

 (6) there shall be adequate insurance and indemnification requirements to protect the interests of the public and the City;

 (7) all franchisees shall be required to maintain complete and accurate books of account and records sufficient to assure franchisee’s compliance with the franchise agreement, which books of account and records shall be made available on demand to the City for inspection;

 (8) there shall be provisions to ensure quality workmanship and construction methods in the use of the inalienable property of the City;

 (9) there shall be provisions containing the agreements required pursuant to paragraph 6 of subdivision (h) of Section 363 of the Charter relating to collective bargaining and other matters;

 (10) there shall be provisions requiring the franchisee to comply with City laws, regulations and policies related to, but not limited to, employment and investigations;

 (11) there shall be provisions to ensure adequate oversight by the City of franchisee’s performance of its franchise obligations;

 (12) there shall be provisions to restrict the assignment or other transfer of the franchise without the prior, written consent of the City and provisions to restrict changes in control of the franchisee without the prior written consent of the City;

 (13) there shall be remedies to protect the City’s interest in the event of the franchisee’s failure to comply with the terms and conditions of the agreement;

 (14) all franchisees shall have been subject, prior to the commencement of the franchise term to review under the City’s Procurement and Sourcing Solutions Portal (“PASSPort”) or any successor system;

 (15) all franchises shall include provisions incorporating the MacBride Principles;

(16) there shall be provisions preserving the right of the City to perform public works or public improvements in and around those areas subject to the franchise;

 (17) there shall be provisions requiring the franchisee to protect the property of the City, and the delivery of public services through, along or across such property, from damage or interruption of operation, as a result of the construction, installation, use, operation, maintenance, repair and/or removal of the franchisee’s facilities in the inalienable property of the City;

 (18) there shall be provisions designed to minimize the extent to which the public use of the streets of the City are disrupted in connection with the construction, installation, use, operation, maintenance, repair and/or removal of the franchisee’s facilities in the inalienable property of the City; and

 (19) there shall be provisions requiring the franchisee to provide maps and other information, including resiliency information, regarding locations of facilities in the inalienable property of the City.

H. DoITT shall file with the Council the following documents:

1. (1) within fifteen (15) days of issuance, a copy of each RFP or other solicitation issued pursuant to this resolution;
2.
3. (2) within fifteen (15) days of approval by the Mayor, a copy of the agreement for each franchise granted pursuant to this resolution; and
4. (3) on or before July 1 of each year, a report detailing the revenues received by the City during the preceding calendar year from each franchise granted pursuant to this resolution.

I. If any clause, sentence, paragraph, section or part of this resolution shall for any reason be adjudged by a court of competent jurisdiction to be invalid, such judgment shall not affect, impair or invalidate the remainder of this resolution or the application thereof but shall be confined in its operation to the clause, sentence, paragraph, section or part thereof directly involved in the controversy in which such judgment shall have been rendered.

1. *The New York City Internet Master Plan*, NYC Mayor’s Office of the Chief Technology Officer, January 2020, <https://tech.cityofnewyork.us/wp-content/uploads/2020/01/NYC_IMP_1.7.20_FINAL-2.pdf>, p. 12. [↑](#footnote-ref-1)
2. American Community Survey, *2018 5-Year Estimates*, B28011, <https://www.census.gov/programs-surveys/acs/data.html>. [↑](#footnote-ref-2)
3. *On the Map: The New York City Interactive Map of Student Homelessness*, Institute for Children, Poverty, and Homelessness, May 4, 2020, <http://www.icphusa.org/interactive_data/map-new-york-city-interactive-map-student-homelessness>. [↑](#footnote-ref-3)
4. The Community Districts That Follow Have a Gradual Increase in The Number of Households with Broadband Subscriptions. American Community Survey, *2018 5-Year Estimates*, B28011, https://www.census.gov/programs-surveys/acs/data.html. [↑](#footnote-ref-4)
5. *Id.* [↑](#footnote-ref-5)
6. *Id.* [↑](#footnote-ref-6)
7. *Id.* [↑](#footnote-ref-7)
8. *Id.* [↑](#footnote-ref-8)
9. *The New York City Internet Master Plan*, NYC Mayor’s Office of the Chief Technology Officer, January 2020, <https://tech.cityofnewyork.us/wp-content/uploads/2020/01/NYC_IMP_1.7.20_FINAL-2.pdf>, p. 12. [↑](#footnote-ref-9)
10. *Id*.; Monic Anderson, *Mobile Technology and Home Broadband 2019*, Pew Research Center, June 13, 2019, <https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019>. [↑](#footnote-ref-10)
11. *Id.* [↑](#footnote-ref-11)
12. American Community Survey, *2018 5-Year Estimates*, S1701, <https://www.census.gov/programs-surveys/acs/data.html>; American Community Survey, *2018 5-Year Estimates*, B28011, <https://www.census.gov/programs-surveys/acs/data.html>. [↑](#footnote-ref-12)
13. *Id.* [↑](#footnote-ref-13)
14. NYCHA Development Data Book, NYC Open Data, February 7, 2020, <https://data.cityofnewyork.us/Housing-Development/NYCHA-Development-Data-Book/evjd-dqpz> (last visited October 9, 2020). [↑](#footnote-ref-14)
15. The number of children living in NYCHA housing below the borough level or the number of NYCHA residents enrolled in New York City public schools was not available through searches of publicly available data. The number of NYCHA residents without internet access was also unavailable; *id*. [↑](#footnote-ref-15)
16. *Universal Solicitation for Broadband in NYCHA Residences*, New York BIDS, <https://www.newyorkbids.us/new-york-bids/bids-NBD15913845327415710.htm?ak=15518> ( accessed October 2020 and Quaintance, Z., "What's New in Civic Tech: NYC Works to Expand Broadband," May 28, 2020, Government Technology, <https://www.govtech.com/civic/Whats-New-in-Civic-Tech-NYC-Works-to-Expand-Broadband.html>. [↑](#footnote-ref-16)
17. *Gothamist,* July 7, 2020,<https://gothamist.com/news/de-blasio-will-expand-internet-600k-new-yorkers-over-next-18-months>. [↑](#footnote-ref-17)
18. Mayor’s Office of the Chief Technology Officer, *Universal Solicitation for Broadband: NYCHA,* City of New York, <https://www1.nyc.gov/assets/cto/#/project/usb-nycha>, (last visited October 9, 2020); Sydney Pereira, *De Blasio Will Expand Internet To 600K New Yorkers Over The Next 18 Months*,Gothamist*,* July 7, 2020,<https://gothamist.com/news/de-blasio-will-expand-internet-600k-new-yorkers-over-next-18-months>. [↑](#footnote-ref-18)
19. Ryan Johnston, *New York Delivers 10,000 Tablets to Elderly to Close Digital Divide,* State Scoop, June 1, 2020, <https://statescoop.com/new-york-delivers-10000-tablets-to-elderly-to-close-digital-divide/>. [↑](#footnote-ref-19)
20. *Id.* [↑](#footnote-ref-20)
21. *Id.* [↑](#footnote-ref-21)
22. *FACT SHEET: ConnectHome: Coming Together to Ensure Digital Opportunity for All Americans,* The White House, Office of the Press Secretary, July 15, 2015, <https://obamawhitehouse.archives.gov/the-press-office/2015/07/15/fact-sheet-connecthome-coming-together-ensure-digital-opportunity-all>; ConnectHomeUSA, About Us, <https://connecthomeusa.org> (last visited October 9, 2020). [↑](#footnote-ref-22)
23. Gideon Lewis-Kraus, *Inside the Battle to Bring Broadband to New York’s Public Housing*, Wired, November 3, 2016, <https://www.wired.com/2016/11/bringing-internet-to-new-york-public-housing>. [↑](#footnote-ref-23)
24. *Id*; NYC Mayor’s Office of the Chief Technology Officer, *The New York City Internet Master Plan*, January 2020, <https://tech.cityofnewyork.us/wp-content/uploads/2020/01/NYC_IMP_1.7.20_FINAL-2.pdf>, p. 33. [↑](#footnote-ref-24)
25. Information is not readily available on whether or to what extent Wi-Fi was installed in either NYCHA site. Some information about the mesh Wi-Fi network set up by the Red Hook Initiative community group in the aftermath of Hurricane Sandy can be found publicly online, that information does not state explicitly that they were supported by the ConnectHome initiative starting in 2016. In addition, the *Internet Master Plan* report only reported on the Queensbridge Houses Wi-Fi installation without an update on the Red Hook or Mott Haven Houses; NYC Office of the Mayor, “Mayor de Blasio Announces up to $10 Million Investment in Free Broadband Service for Five NYCHA Developments,” July 16, 2015, <https://www1.nyc.gov/office-of-the-mayor/news/491-15/mayor-de-blasio-up-10-million-investment-free-broadband-service-five-nycha#/0>. [↑](#footnote-ref-25)
26. ConnectHomeUSA, About Us, <https://connecthomeusa.org> (last visited October 9, 2020). [↑](#footnote-ref-26)
27. *NYCHA Unveils Third Digital Van, Expanding Internet Access in Public Housing Communities*, NYC Housing Authority, July 19, 2016, <https://www1.nyc.gov/site/nycha/about/press/pr-2016/nycha-unveils-3rd-digital-van-expanding-internet-access-in-public-housing-communities-20160719.page>; *NYCHA Launches Fourth Digital Van*, NYCHA Now, March 2020, <http://nychanow.nyc/nycha-launches-fourth-digital-van/>. [↑](#footnote-ref-27)
28. Broadband Access, NYC Department of Information Technology and Telecommunications, <https://www1.nyc.gov/site/doitt/initiatives/broadband-access.page>, (last visited October 9, 2020). [↑](#footnote-ref-28)
29. Cecilia Kang, *Bridging a Digital Divide That Leaves Schoolchildren Behind*, New York Times*,* February 22, 2016, <https://www.nytimes.com/2016/02/23/technology/fcc-internet-access-school.html>. [↑](#footnote-ref-29)
30. Monica Anderson, Andrew Perrin, *Nearly One-in-Five Teens Can’t Always Finish Their Homework Because of the Digital Divide*, Pew Research Center, October 26, 2018, <https://www.pewresearch.org/fact-tank/2018/10/26/nearly-one-in-five-teens-cant-always-finish-their-homework-because-of-the-digital-divide>. [↑](#footnote-ref-30)
31. Emma Garcia, *Access to Online Learning Amid Coronavirus Is Far from Universal*, *and Children Who Are Poor Suffer from a Digital Divide*, Economic Policy Institute, April 17, 2020, <https://www.epi.org/blog/access-to-online-learning-amid-coronavirus-and-digital-divide>. [↑](#footnote-ref-31)
32. *Homeless Need Internet Access to Find a Home*, City Bar Justice Center, May 2020,<https://www.citybarjusticecenter.org/wp-content/uploads/2020/05/Homeless-Need-Internet-Access-to-Find-a-Home-2020-Report.pdf>. [↑](#footnote-ref-32)
33. Eliza Shapiro, *This Is Schooling Now for 200,000 N.Y.C. Children in Special Education*, New York Times, April 16, 2020, <https://www.nytimes.com/2020/04/16/nyregion/special-education-coronavirus-nyc.html>. [↑](#footnote-ref-33)
34. *Id.* [↑](#footnote-ref-34)
35. Sophia Chang, *NYC Public Schools Reopening Plan: Here's What We Know So Far*, Gothamist*,* September 18, 2020, <https://gothamist.com/news/nyc-public-schools-reopening-plan-heres-what-we-know-so-far>. [↑](#footnote-ref-35)
36. *De Blasio Administration Announces Record Increases in School Internet Capacity*, NYC Office of the Mayor*,* October 16, 2019, <https://www1.nyc.gov/office-of-the-mayor/news/489-19/de-blasio-administration-record-increases-school-internet-capacity>. [↑](#footnote-ref-36)
37. It is unclear whether the devices given out were mobile hotspots or tablets. The press release said the devices could be used to browse the web or as hotspots to connect to other devices like computers; *The New York City Internet Master Plan*, NYC Mayor’s Office of the Chief Technology Officer, January 2020, <https://tech.cityofnewyork.us/wp-content/uploads/2020/01/NYC_IMP_1.7.20_FINAL-2.pdf>, p. 35. [↑](#footnote-ref-37)
38. The press release said the students would receive 3GB of high speed data per month, but the Community Schools website said the monthly high speed data total would be 10GB; *Chancellor Fariña, Deputy Mayor Buery, Senior Advisor Fialkoff, Sprint’s 1Million Project Launch Initiative to Provide Free Wi-Fi Devices to Over 30,000 Public School Students*, NYC Department of Education, April 18, 2018,<https://www.schools.nyc.gov/about-us/news/announcements/contentdetails/2017/09/28/chancellor-fari%C3%B1a-deputy-mayor-buery-senior-advisor-fialkoff-sprint-s-1million-project-launch-initiative-to-provide-free-wi-fi-devices-to-over-30-000-public-school-students>; *The 1Million Project*, NYC Community Schools, <https://sites.google.com/mynycschool.org/newyorkcitycommunityschools/partnerships/1millionproject>. [↑](#footnote-ref-38)
39. *Sprint’s 1Million Project to Connect 180,000 Students Nationwide During the 2017–18 School Year*, BusinessWire, August 14, 2017, <https://www.businesswire.com/news/home/20170814005275/en/Sprint%E2%80%99s-1Million-Project-to-Connect-180000-Students-Nationwide-During-the-2017-18-School-Year>. [↑](#footnote-ref-39)
40. Lauren Hannula, *How Much Data Does Zoom Use?,* WhistleOut, June 8, 2020, <https://www.whistleout.com/Internet/Guides/zoom-video-call-data-use#:~:text=Zoom%20uses%20roughly%20540MB%2D1.62,per%20hour%20for%20group%20meetings>. [↑](#footnote-ref-40)
41. *Mayor Bill de Blasio, City Library Chiefs Announce Expansion of Library Hotspot Program Through Google Donation*, NYC Office of the Mayor, December 2, 2014, <https://www1.nyc.gov/office-of->the-mayor/news/538-14/mayor-bill-de-blasio-city-library-chiefs-expansion-library-hotspot-program-through. [↑](#footnote-ref-41)
42. Sri Ravipati, *NYC Libraries to Offer 5,000 WiFi Hotspots to Students, Families*, October 7, 2016, The Journal, <https://thejournal.com/articles/2016/10/07/nyc-libraries-to-offer-5000-wifi-hotspots-to-students-families.aspx>. [↑](#footnote-ref-42)
43. Corinne Lestch, *NYC Libraries to Offer Free Hotspots for Low-Income Students, Families*, October 4, 2016*,* Ed Scoop, <https://edscoop.com/nyc-libraries-to-offer-free-hotspots-for-low-income-students-families>; *Library Hotspot Program from Sprint,* Sprint,<https://government.sprint.com/wp-content/uploads/sites/7/2020/01/SPR21686-Hotspot_Program_Solution_04_AW.pdf>. [↑](#footnote-ref-43)
44. Reuven Blau, *Wifi Sign of the Times as New Yorkers Gather Outside Libraries for Free Internet*, September 15, 2020, The City, <https://www.thecity.nyc/2020/9/15/21439065/new-yorkers-gather-outside-libraries-for-free-internet?mc_cid=9c4b3ecf1e&mc_eid=e1bda6d41c>. [↑](#footnote-ref-44)
45. Bill Parry, *Spectrum Opens Technology Centers at Three Nonprofit Community Organizations in Jamaica*, May 14, 2019, QNS.com, <https://qns.com/story/2019/05/14/spectrum-opens-technology-centers-at-three-nonprofit-community-organizations-in-jamaica>. [↑](#footnote-ref-45)
46. *Giving More to Those Who Give The Most*, Verizon, <https://www.verizon.com/info/teachers/>. [↑](#footnote-ref-46)
47. *Verizon extends low-income internet offer through 2020*, Verizon, July 9, 2020, <https://www.verizon.com/about/news/verizon-extends-low-income-internet>. [↑](#footnote-ref-47)
48. *Id.* [↑](#footnote-ref-48)
49. *Id.* [↑](#footnote-ref-49)
50. Press Releases, *Charter Relaunches Free 60-Day Spectrum Internet & WiFi Offer to Help Connect New Households With K-12 and College Students or Educators*, Charter Communications, September 21, 2020, , <https://corporate.charter.com/newsroom/charter-relaunches-free-60-day-spectrum-internet-and-wifi-offer-to-help-connect-new-households-with-K-12-and-college-students-or-educators>. [↑](#footnote-ref-50)
51. *Id.* [↑](#footnote-ref-51)
52. A part of FCC requirements related to the merger with Time Warner that required the offering of a reduced-price broadband service to low income families with download speeds of at least 30/4 Mbps. *See* Federal Communications Commission, *Memorandum and Opinion*, MB Docket No. 15-149. [↑](#footnote-ref-52)
53. *Id.* [↑](#footnote-ref-53)
54. *Altice USA Brings Free Broadband to K-12 and College Students During Coronavirus Pandemic*, Altice, March 13, 2020, <https://www.alticeusa.com/news/articles/feature/corporate/altice-usa-brings-free-broadband-k-12-and-college-students-during-coronavirus-pandemic#:~:text=For%20households%20with%20K-12,customer%20household%20within%20our%20footprint>; *Altice Advantage Internet*, <https://www.alticeadvantageinternet.com/> (last visited October 9, 2020). [↑](#footnote-ref-54)
55. Luis Diaz, *NYC Working With Apple to Supply 300,000 iPads to Our Students for Distance Learning*, March 16, 2020, New Yorkled Magazine, <https://www.newyorkled.com/nyc-working-with-apple-to-supply-300000-ipads-to-our-students-for-distance-learning/>. [↑](#footnote-ref-55)
56. Reema Amin, *The Education Department Distributed 321K iPads to NYC Students for Remote Learning. Now Principals Have to Get Them Back*, Chalkbeat, July 29, 2020, <https://ny.chalkbeat.org/2020/7/29/21347043/remote-learning-devices-distribution-nyc>. [↑](#footnote-ref-56)
57. NYC Office of the Mayor, *Mayor de Blasio, HUD Secretary Castro, and T-Mobile Announce 5,000 Families in Bronx Public Housing to Receive Free Tablets and Mobile Internet Service*, December 16, 2016, <https://www1.nyc.gov/office-of-the-mayor/news/956-16/mayor-de-blasio-hud-secretary-castro-t-mobile-5-000-families-bronx-public-housing#/0>. [↑](#footnote-ref-57)
58. *Id.* [↑](#footnote-ref-58)
59. *Id.* [↑](#footnote-ref-59)
60. Federal Communications Commission, *Lifeline Support for Affordable Communications*, FCC, <https://www.fcc.gov/lifeline-consumers>. [↑](#footnote-ref-60)
61. *Id.* [↑](#footnote-ref-61)
62. *Id.* [↑](#footnote-ref-62)
63. *Scientific American* gives a comprehensive explanation of a mesh network: “The community approach typically involves organizers renting internet access from a local data center, and installing rooftop antennas and wi-fi routers that together act as access point for nearby residents. Unlike a home or office router that provides wi-fi service for a dozen or so square meters, a community network can provide a wi-fi signal for several square kilometers. Residents connect to the access point by mounting their own antennas on their buildings’ rooftops or outside their windows. These antennas receive the network’s signal and send it through a cable to wi-fi routers located inside members’ homes or offices. The setup is called a ‘mesh’ network because any member can act as an access point, or node, for other members.” (Larry Greenemeier, *Net Neutrality Loss Could Rekindle ISP Alternatives for Internet Access*, Scientific American, January 8, 2018, <https://www.scientificamerican.com/article/net-neutrality-loss-could-rekindle-isp-alternatives-for-internet-access>.) [↑](#footnote-ref-63)
64. NYC Mesh, <https://www.nycmesh.net>, (last visited October 9, 2020). [↑](#footnote-ref-64)
65. #  Information Services Franchises, NYC DOITT, <https://www1.nyc.gov/site/doitt/business/information-services-franchises.page>.

 [↑](#footnote-ref-65)
66. *Pilot Powers NYC Mesh’s Brooklyn Expansion*, Pilot Fiber, May 27, 2020, <https://www.pilotfiber.com/blog/pilot-powers-nyc-mesh-brooklyn-expansion>. [↑](#footnote-ref-66)
67. Cohen, N., *Red Hook’s Cutting-Edge Wireless Network*, New York Times*,* August 22, 2014, <https://www.nytimes.com/2014/08/24/nyregion/red-hooks-cutting-edge-wireless-network.html>. [↑](#footnote-ref-67)
68. RISE: NYC, <http://rise-nyc.com>, (last visited October 9, 2020). [↑](#footnote-ref-68)
69. #  Jon Brodkin, *Ajit Pai Doubts Elon Musk’s SpaceX Broadband-Latency Claims*, ArsTechnica, May 20, 2020, <https://arstechnica.com/tech-policy/2020/05/elon-musks-promise-of-low-latency-broadband-meets-skepticism-at-fcc/>.

 [↑](#footnote-ref-69)
70. #  *See* Chris Daehnick, *Large LEO Satellite Constellations: Will It Be Different This Time*?” McKinsey, May 4, 2020, <https://www.mckinsey.com/industries/aerospace-and-defense/our-insights/large-leo-satellite-constellations-will-it-be-different-this-time>#; *See* *OneWeb Files for Chapter 11 Restructuring to Execute Sale Process*, One WEb, March 27, 2020, <https://www.oneweb.world/media-center/oneweb-files-for-chapter-11-restructuring-to-execute-sale-process> (The British government and Indian mobile network operator Bharti Global placed the winning bid to acquire OneWeb, a broadband megaconstellation startup that filed for Chapter 11 bankruptcy protection. Caleb Henry, *British Government and Bharti Global Buy Oneweb, Plan $1 Billion Investment To Revive Company*, Space News, July 3, 2020, <https://spacenews.com/british-government-and-bharti-global-buy-oneweb-plan-1-billion-investment-to-revive-company/>).

 [↑](#footnote-ref-70)
71. Dominic Gates, *Elon Musk Touts Launch of ‘SpaceX Seattle’*, January 16, 2015, The Seattle Times, <https://www.seattletimes.com/business/elon-musk-touts-launch-of-lsquospacex-seattlersquo/>. [↑](#footnote-ref-71)
72. *Access Across the Globe*, Starlink, <https://www.starlink.com/>. [↑](#footnote-ref-72)
73. Brown, M., *SpaceX Starlink Beta Test: Coverage Area, Pricing And More*, July 21, 2020, Inverse, <https://www.inverse.com/innovation/spacex-starlink-beta-test-how-to-sign-up>. (Starlink has received approval from the FCC to launch 12,000 satellites. Starlink has submitted an application for their 2nd generation program which will include an additional 30,000 satellites. [https://www.mckinsey.com/industries/aerospace-and-defense/our-insights/large-leo-satellite-constellations-will-it-be-different-this-time#](https://www.mckinsey.com/industries/aerospace-and-defense/our-insights/large-leo-satellite-constellations-will-it-be-different-this-time); <https://fcc.report/IBFS/SAT-LOA-20200526-00055/2378669>). [↑](#footnote-ref-73)
74. #  Laren Grash, *With Latest Starlink Launch, Spacex Touts 100 Mbps Download Speeds And ‘Space Lasers’*, The Verge, September 3, 2020,[https://www.theverge.com/2020/9/3/21419841/spacex-starlink-internet-satellite-constellation-download-speeds-space-lasers.](https://www.theverge.com/2020/9/3/21419841/spacex-starlink-internet-satellite-constellation-download-speeds-space-lasers)

 [↑](#footnote-ref-74)
75. Brodkin, J., *SpaceX Starlink Speeds Revealed as Beta Users Get Downloads of 11 to 60Mbps*, August 14, 2020, ArsTechnica, <https://arstechnica.com/information-technology/2020/08/spacex-starlink-beta-tests-show-speeds-up-to-60mbps-latency-as-low-as-31ms/>. [↑](#footnote-ref-75)
76. Jon Brodkin, *SpaceX Starlink Speeds Revealed As Beta Users Get Downloads of 11 to 60Mbps*, August 14, 2020, ArsTechnica, <https://arstechnica.com/information-technology/2020/08/spacex-starlink-beta-tests-show-speeds-up-to-60mbps-latency-as-low-as-31ms/>. [↑](#footnote-ref-76)
77. #  *See* Caleb Henry, *Amazon’s Kuiper Constellation Gets FCC Approval*, SpaceNews, July 30, 2020, <https://spacenews.com/amazons-kuiper-constellation-gets-fcc-approval/>.

 [↑](#footnote-ref-77)
78. Sisson, P., *In Wake of Net Neutrality Decision, Should Cities Build Internet Networks*?, Curbed, December 27, 2017, <https://www.curbed.com/2017/12/27/16822140/internet-broadband-net-neutrality-high-speed-access>. [↑](#footnote-ref-78)
79. *Id.* [↑](#footnote-ref-79)
80. Los Angeles Information Technology Agency, *OurCycle LA*, City of Los Angeles*,* February 12, 2018, <https://ita.lacity.org/about-ita/ourcycle-la>. [↑](#footnote-ref-80)
81. The Housing Authority of the City of Los Angeles, Los Angeles City Council, Human-I-T, and Frontier Communications formed a partnership in 2017 to connect 3,000 public housing residents to the internet through broadband and refurbished computers. Specifics on which entities paid for what and whether the program was implemented as planned couldn’t be found via publicly available information; Human-I-T, <https://www.human-i-t.org>, (last visited May 5, 2020). [↑](#footnote-ref-81)
82. Mississippi Development Authority, *Broadband Technology Tax Credits,* February 2015, <https://mississippi.org/manage/wp-content/uploads/broadband-technology-tax-credits.pdf>. [↑](#footnote-ref-82)
83. *See* Section 383 of the Charter for the definition of inalienable property. [↑](#footnote-ref-83)
84. 47 USCA § 153(24), “The term “information service” means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.” [↑](#footnote-ref-84)
85. “Information Services Franchises”, DoITT Website, <https://www1.nyc.gov/site/doitt/business/information-services-franchises.page> (last visited Oct. 6, 2020). [↑](#footnote-ref-85)