

# DIGITAL DIVIDE

## FINAL REPORT

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MICHAEL O'KEY, MRP '21

CRP 5172: FALL 2020



**Cornell AAP**  
Architecture Art Planning

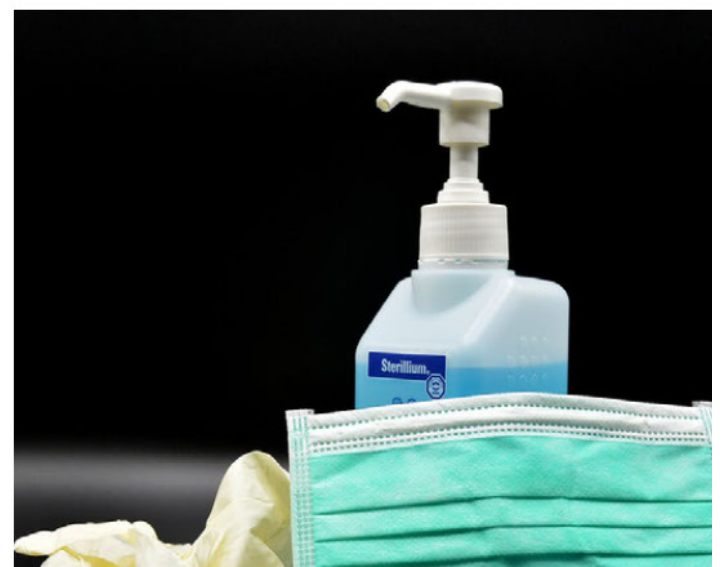
**AAPNYC**



**NEW YORK STATE SENATE DISTRICT 10**  
SENATOR JAMES SANDERS JR.

**AAPNYC**







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Savanna Lim grew up in Singapore and Houston, and has recently graduated from Cornell University, where she studied Urban Design, Information Science, and Fine Arts. She has extensive experience designing in the Graphic, User Experience / User Interface, and Urban Planning spaces. She is also a photographer and creative director. Savanna is passionate about bringing meaningful projects to life by designing for empathy and empowerment, and creating spaces that are equitable and just for all.



## **MICHAEL O'KEY**

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Michael O'Key is a military brat, having grown up in Fayetteville, North Carolina; San Antonio, Texas; and Atlanta, Georgia. Seeing different cities around the country led to a passion for urban design and policy in residential, educational, and civic environments. Michael's research interests lie in school district mapping, affordable housing policy, and minority representation in planning and other design fields. He holds a B.S. in Environmental Design and a B.A. in Public Administration from Auburn University, and is currently a second-year Master of Regional Planning student at Cornell University.



# EXECUTIVE SUMMARY

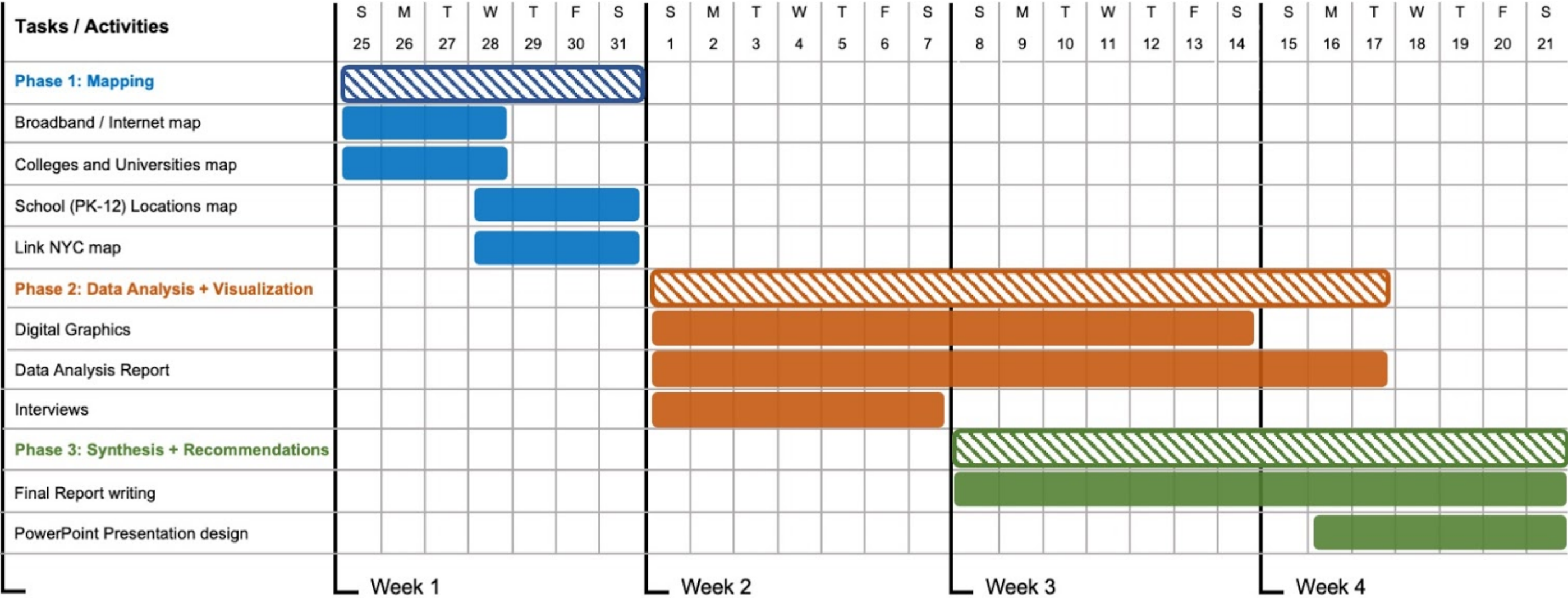
The following report is an in-depth repository of the information we synthesized researching the the 'Digital Divide,' or disparities in technology access, usage, and connectivity, that exists within New York State's Senate District #10. This project is the result of a partnership between the Office of Senator James Sanders, Jr. and Cornell University College of Architecture, Art, and Planning (AAP). This project is undertaken as part of the student team's enrollment in the course CRP 5072: NYC Land Use, Environmental planning, and Urban Design Workshop, and in fulfillment of Cornell's Bachelor of Science in Urban and Regional Studies (URS) and Master of Regional Planning (MRP) degree requirements. This course, a cornerstone of the CRP program at the Cornell NYC campus, examines the evolving structure of New York City and the ways in which large-scale developments have influenced its form, patterns of growth, opportunities for economic development, value creation, and investment. In addition to serving as coursework, it is a document fully utilizatable by Senator Sanders' office as a blueprint for actionable initiatives.

This report succinctly frames the issue of the Digital Divide, its origin, and how it continues to manifest itself. It also features a literature review that provides a very high-level analysis of how these disparities manifest in the realms of healthcare, education, and infrastructure. It also takes a look into several case studies, both locally and nationally, for best practices in bridging the divide. Finally, it features the next steps with our initial ideas for how Senator Sanders, community actors, and communtiy members can successfully bridge the Digital Divide.



# TIMELINE / GANTT CHART

OCTOBER 25, 2020 - NOVEMBER 21, 2020



# INTRODUCTION





## THE WIDENING GAP

The ability to access computers and the internet has become increasingly important as we move into a hyper-online-oriented 21st century. Access to the internet is now necessary for schools, businesses, and more. While this is a critical need, it is important to acknowledge that not everyone has access to this technology. The idea of the "digital divide" refers to the growing gap between the underprivileged members of society, especially the poor, rural, elderly, and handicapped portion of the population who do not have access to computers or the internet; and the wealthy, middle-class, and young Americans living in urban and suburban areas who have access. The COVID-19 pandemic has only heightened the urgent need for internet access. The digital realm has become a necessary space for everything from conducting everyday activities to meeting basic needs. Families experiencing economic and food insecurity must now navigate websites as programs like Food Stamps, Public Assistance, and Unemployment Insurance are processed online.

With this critical dependency on the Internet and other technological components, it has made it harder to live outside its influence. This means that people who lack access or are limited to accessing the Internet are underprivileged. Access to vital services such as education, healthcare, jobs, and several other essential services, is limited.



# DIVIDED: BY THE NUMBERS



30%

of Hispanic and Black New Yorkers lack broadband internet access, compared to 20 percent of White New Yorkers and 22 percent of Asian residents.



41%

of New Yorkers without a high school degree lack a broadband internet connection, compared to only 15 percent of New Yorkers with college degrees.

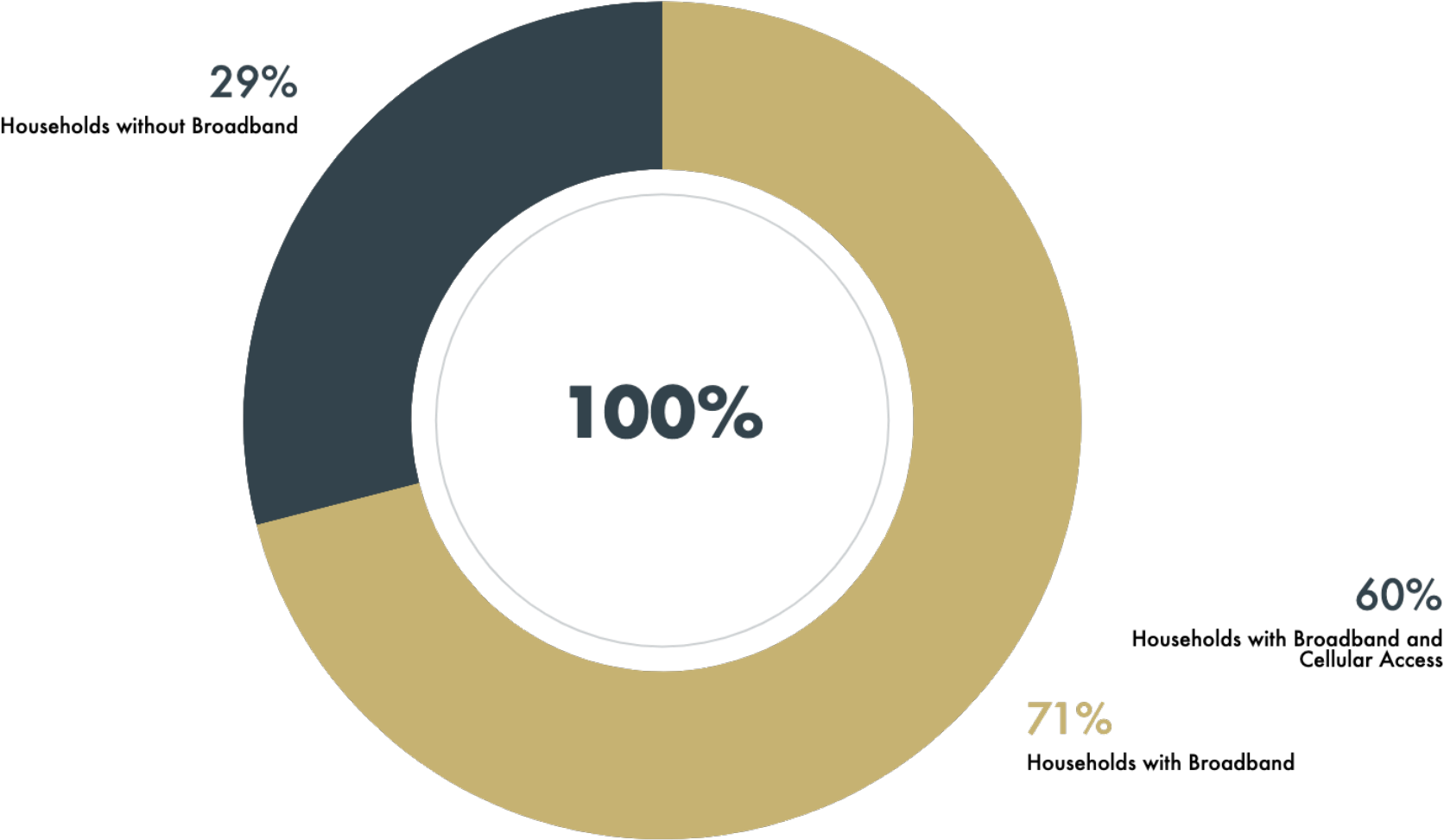


44%

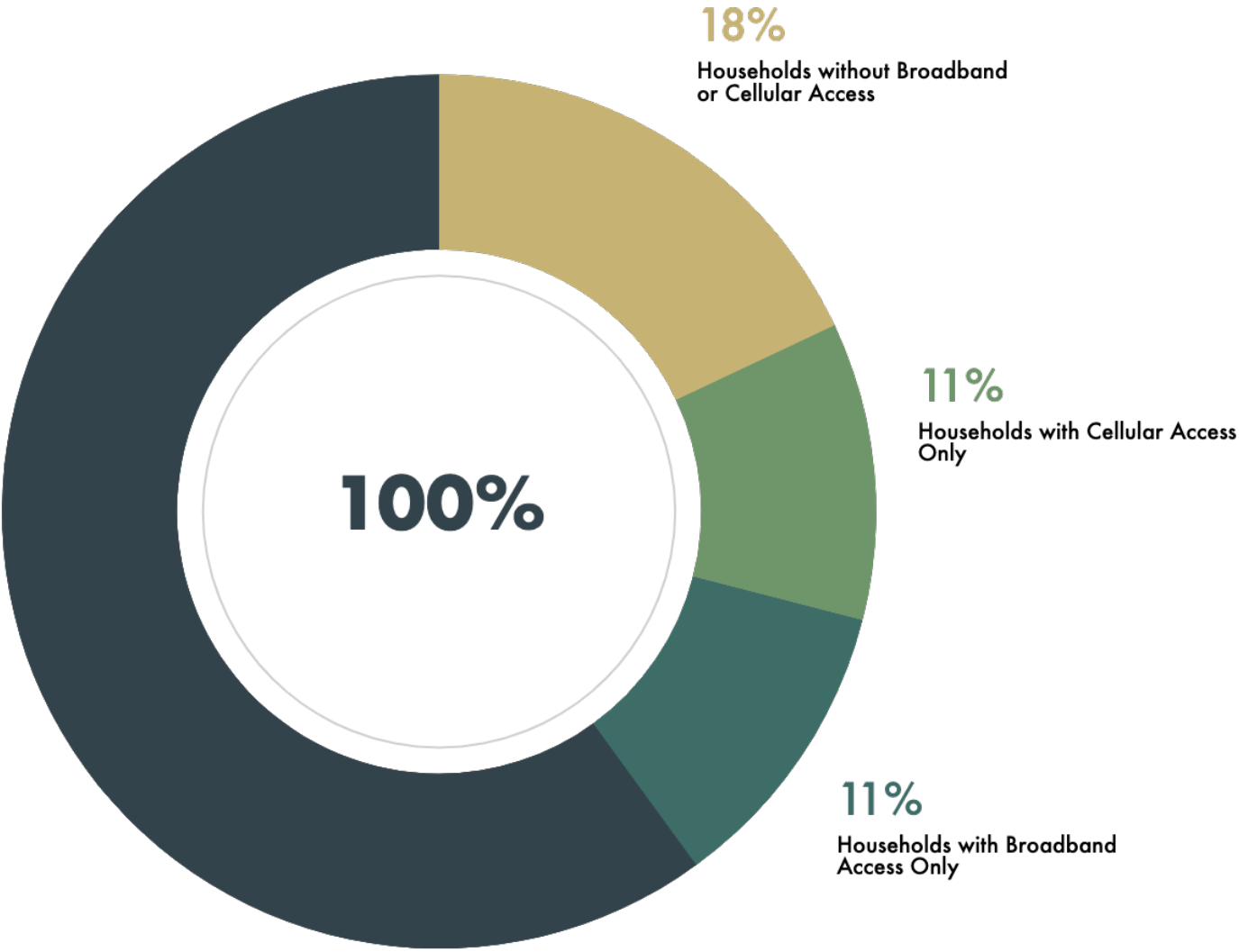
of New Yorkers in poverty lack broadband internet access, as opposed to 22 percent above the poverty line. Thirty six percent of New Yorkers outside of the labor force lack a broadband internet connection, versus 20 percent for employed New Yorkers. Internet disparities track closely to socioeconomic factors like poverty.



# BROADBAND ADOPTION ALL HOUSEHOLDS

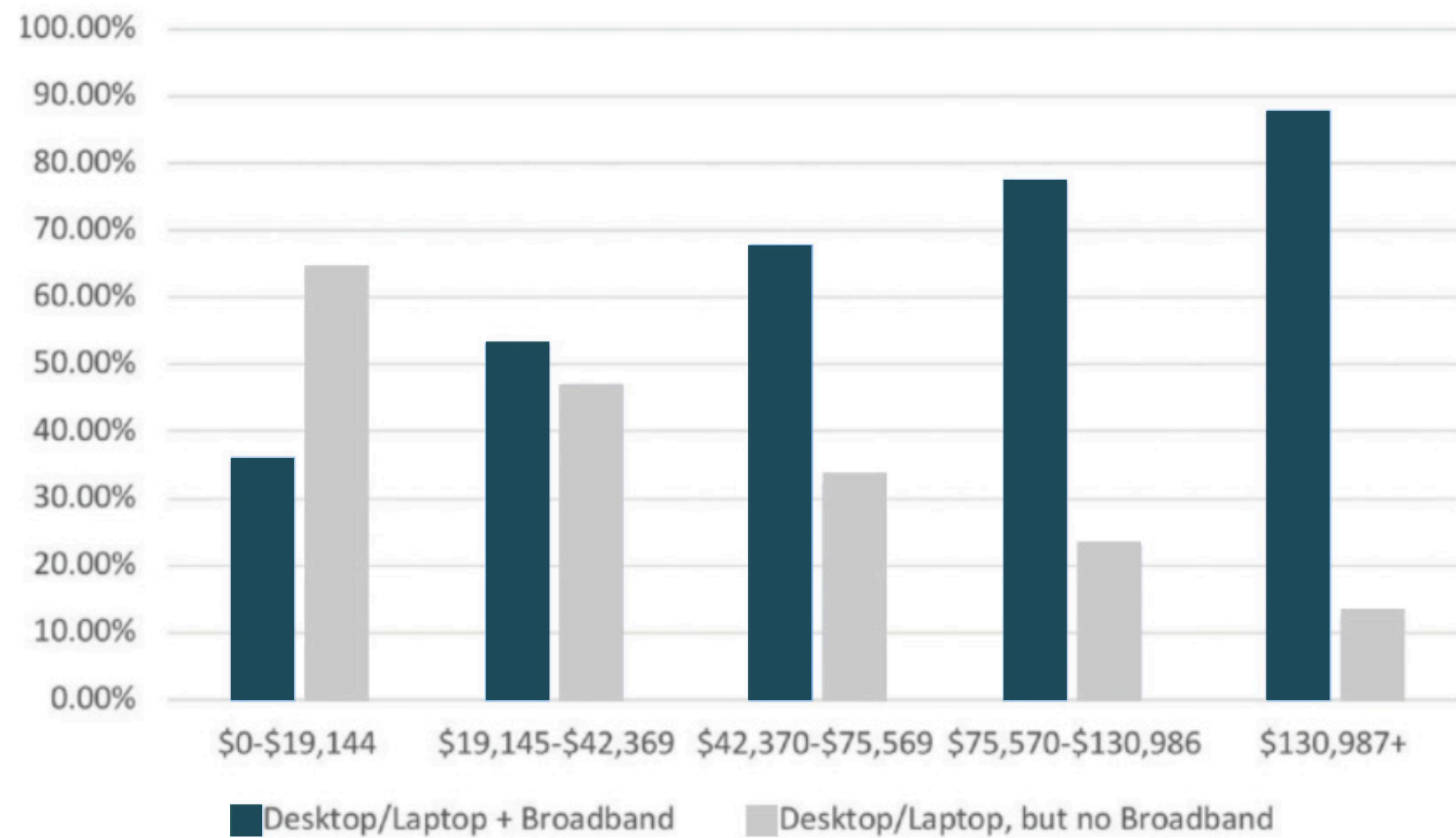


# HOUSEHOLDS IN NYC WITH HOME OR MOBILE BROADBAND



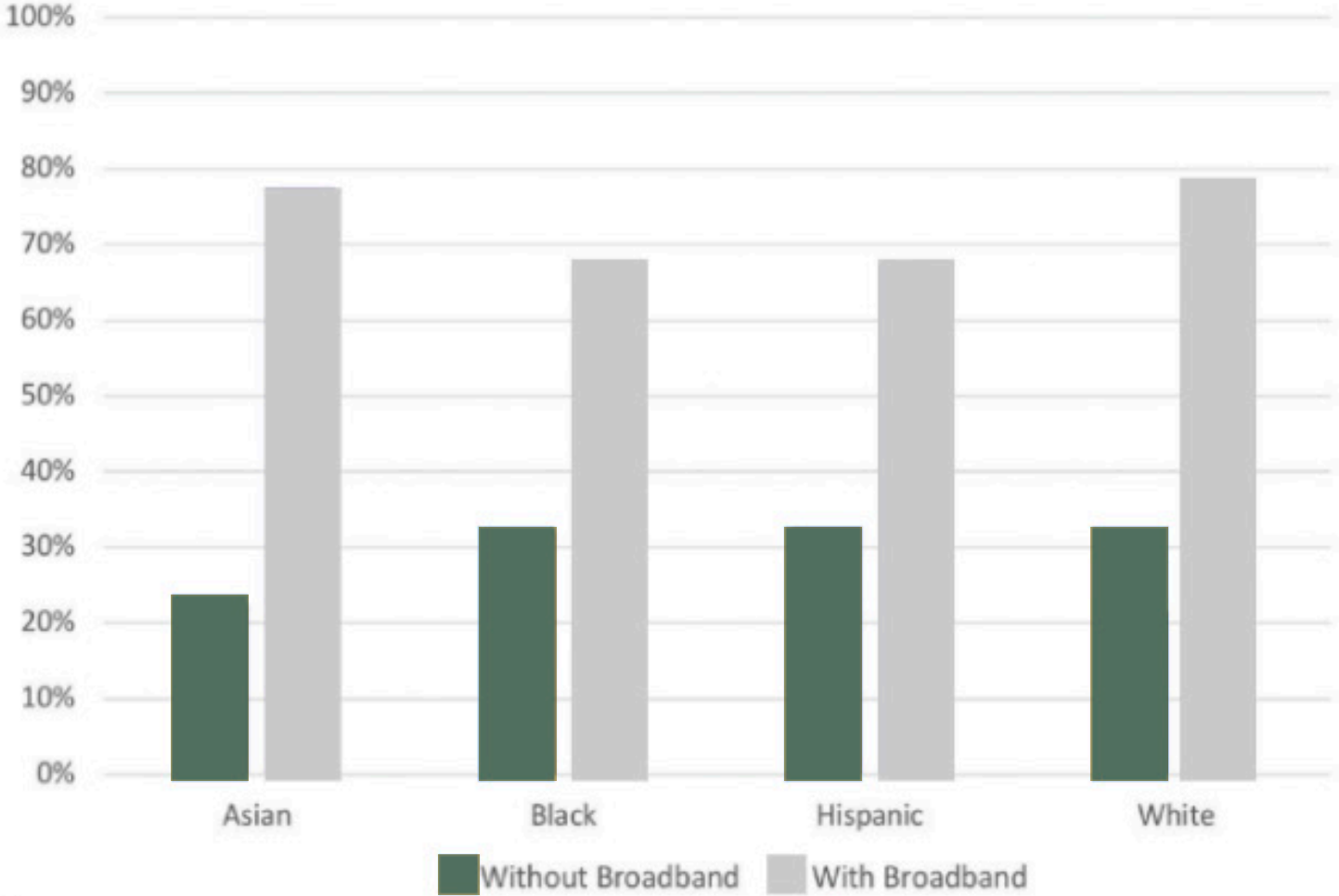
## DISPARITIES IN ACCESS

## DESKTOP/LAPTOP ACCESS + BROADBAND DISPARITIES INCOME

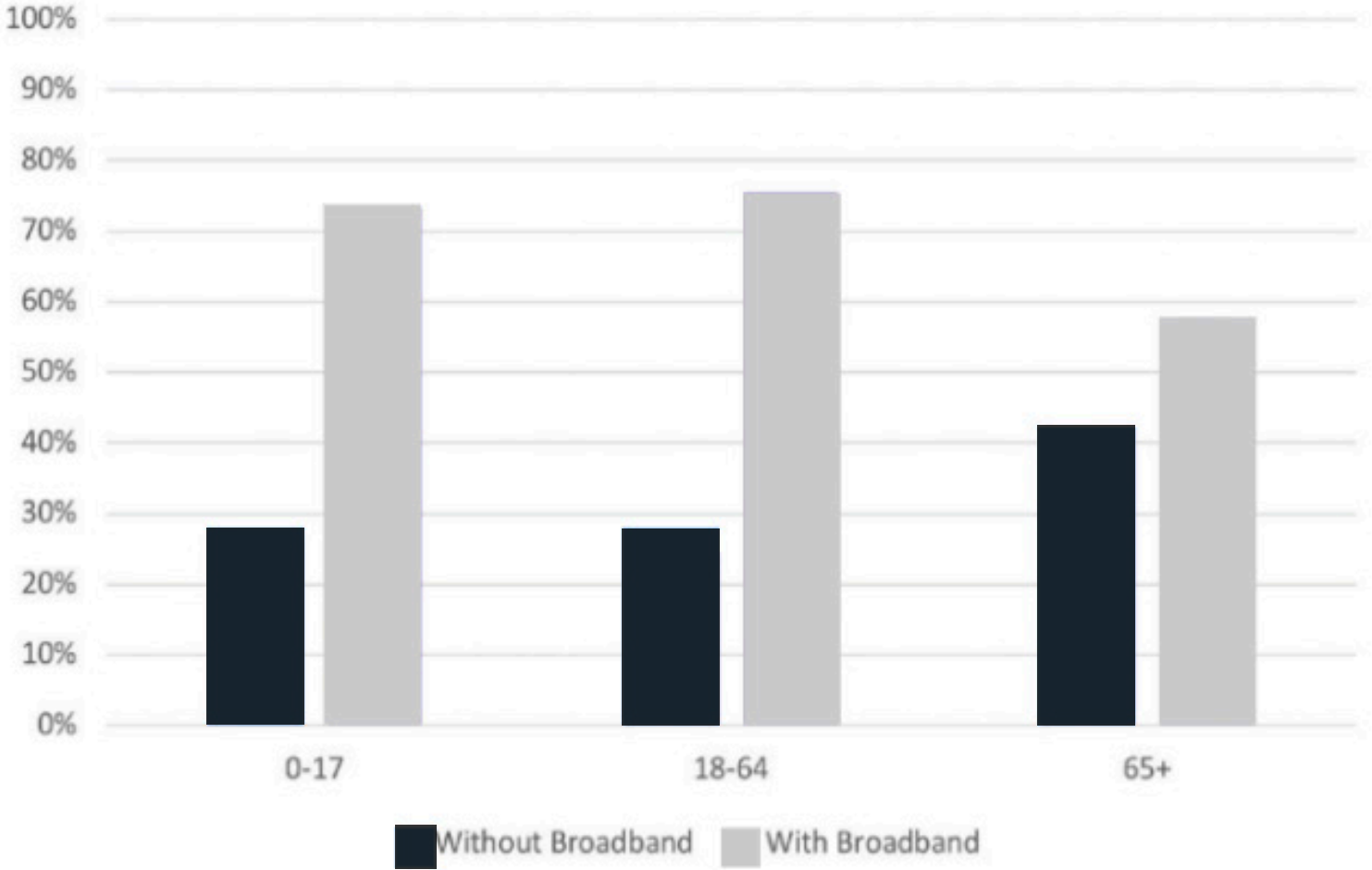




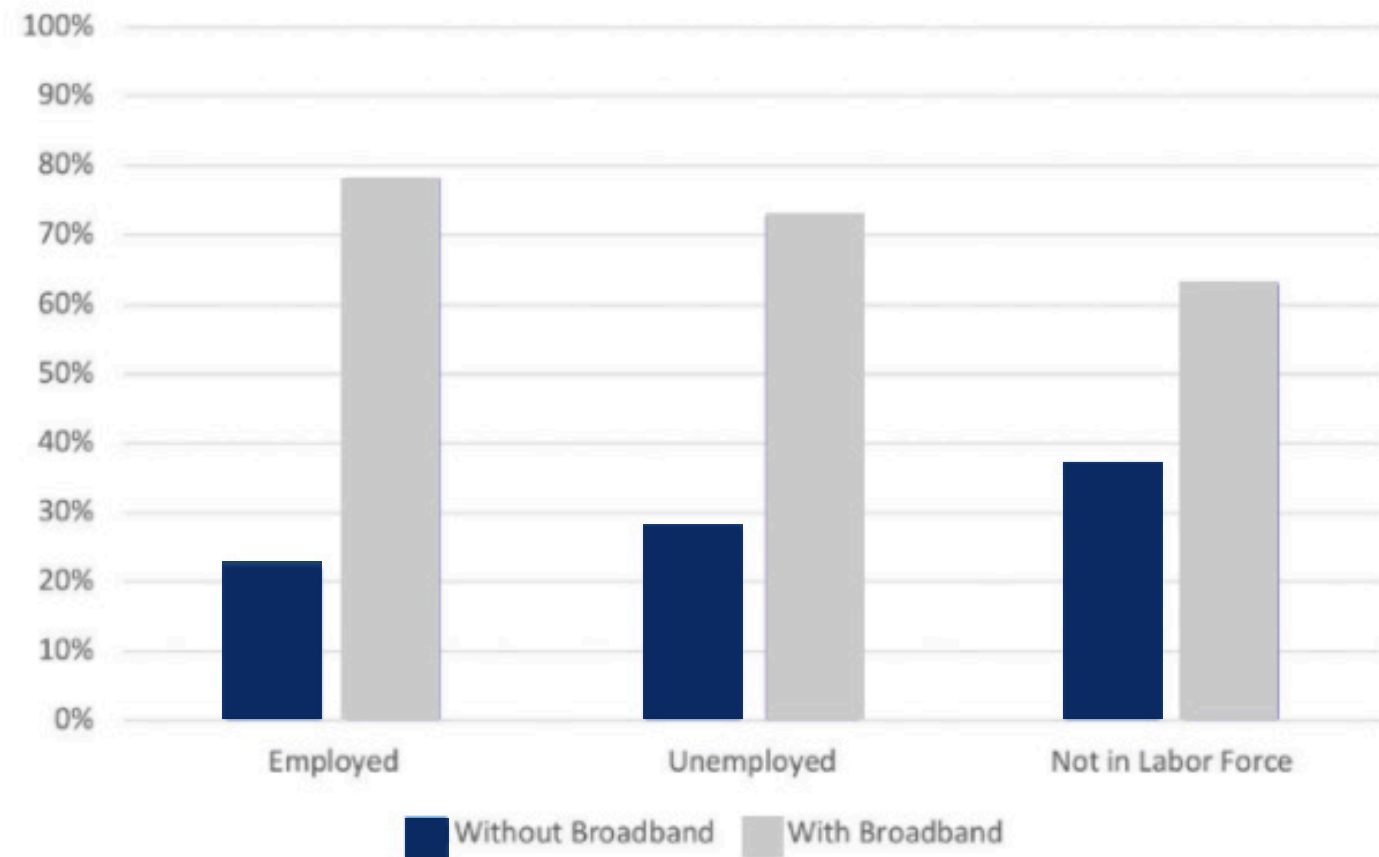
BROADBAND DISPARITIES  
RACE



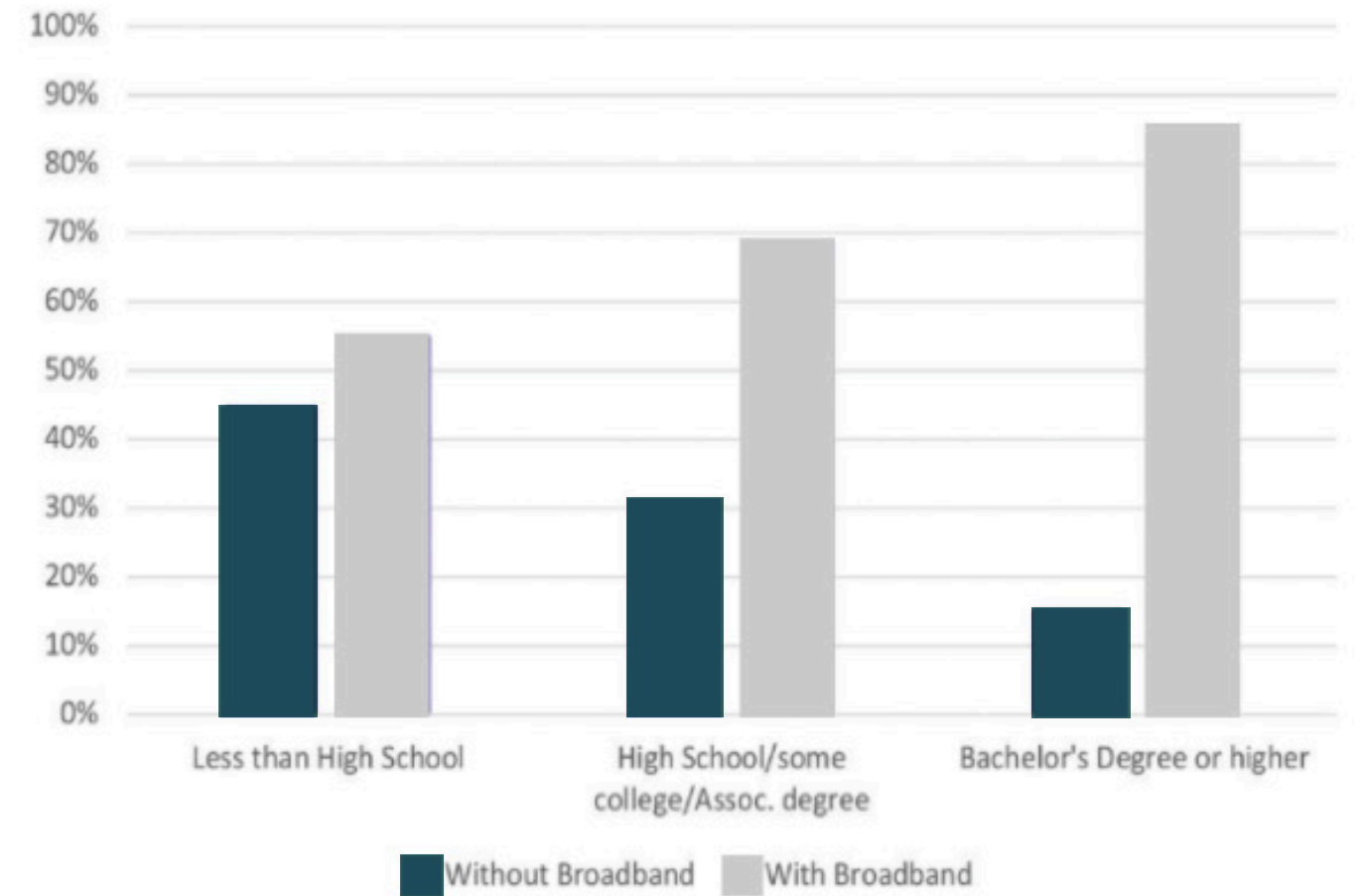
BROADBAND DISPARITIES  
AGE



## BROADBAND DISPARITIES EMPLOYMENT



## BROADBAND DISPARITIES EDUCATION

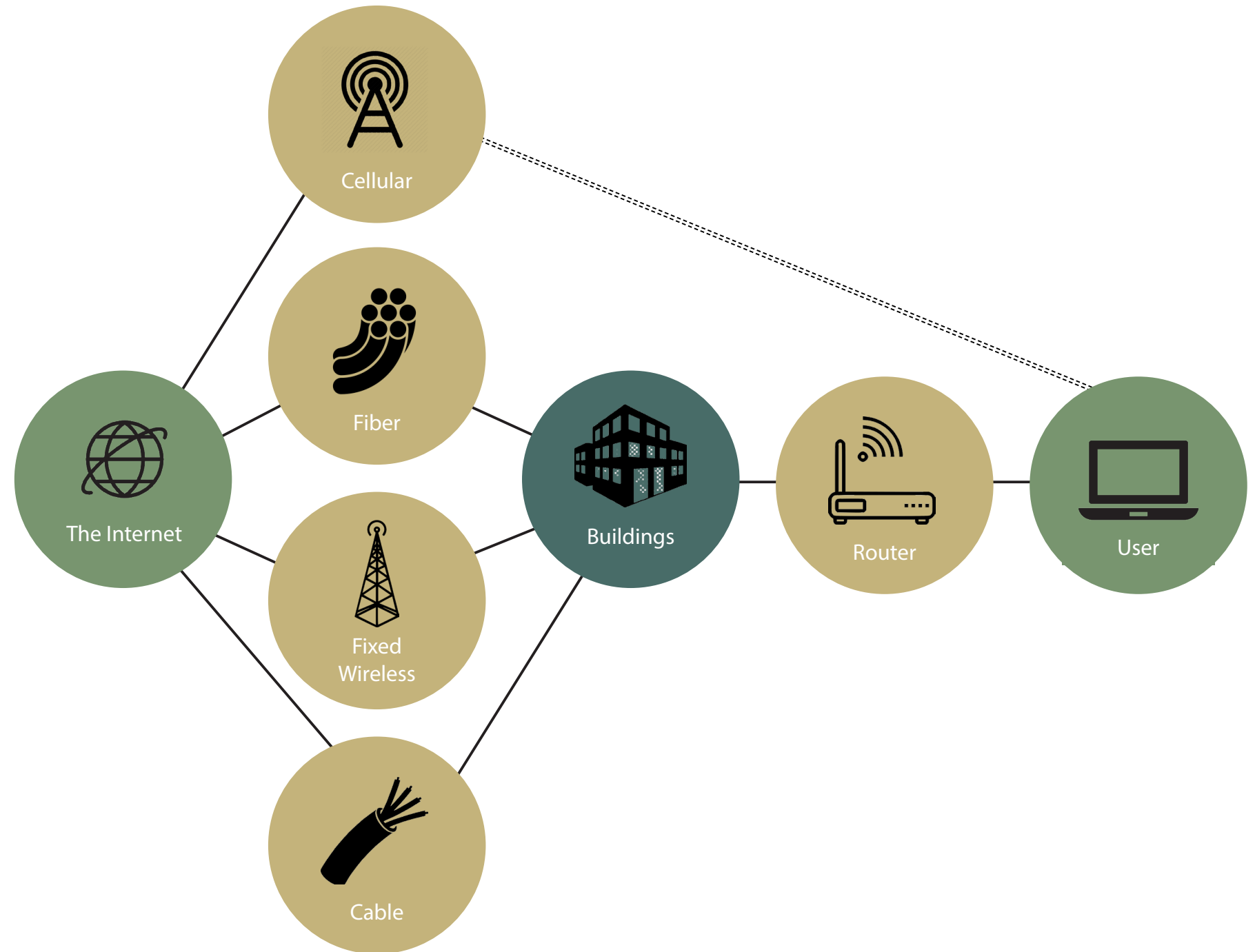


# INTERNET MASTER PLAN

In January of 2020, Mayor Bill de Blasio announced an acceleration of the city's Internet Master Plan to provide high-speed internet access across all five boroughs, prioritizing public housing communities.

The plan: partner with private companies to bring affordable, high-speed internet service to the city's five boroughs.

Beginning with: "Universal Solicitation for Broadband" (USB) for private companies to detail how they will use city assets to bring broadband access to underserved neighborhoods. From there, the city plans to work with service providers to use existing infrastructure like rooftops and light poles and build new connective infrastructure.





CONTEXTUALIZING A  
DESIGN FRAMEWORK



- + MOBILITY
- + EDUCATION
- + HEALTHCARE
- + INDIVIDUAL







# LITERATURE REVIEW



FRAMEWORKS



INFRASTRUCTURE



HEALTHCARE



EDUCATION

LITERATURE REVIEW

**INFRASTRUCTURE**

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**HEALTHCARE**

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# FEATURES OF SMART CITY SERVICES IN THE LOCAL GOVERNMENT CONTEXT: A CASE STUDY OF SAN FRANCISCO 311 SYSTEM

WEI-NING WU | NATIONAL SUN YAT-SEN UNIVERSITY  
JULY 2020

## SYNOPSIS

The 311 system, a type of smart city initiative, has been adopted by local governments in the United States and has been concluded to increase citizen-initiated contact, instigate service coproduction, and improve citizen relationship management. Despite the importance of the 311 system in the service delivery process, few studies have examined the development and main features of a 311 system case study. Public managers could learn from the experience of other cities, as reported in a 311 system case study. San Francisco has one of the most successful 311 systems in the United States, and its development experience would be a learning case for numerous local governments. Hence, this study provides a comprehensive understanding of San Francisco's 311 system, helping local public managers assess 311 system operation and providing evidence as to how these managers can develop an effective 311 system in their municipality.

## STRENGTHS

- + Compared with traditional participation methods such as public hearings and citizen advisory boards, the 311 system offers citizens a means of contacting public officials at lower cost and more easily (because of fewer obstacles) in a high-quality service encounter.
- + Governments that adopt the 311 system state to citizens that they will listen to the citizens' requests and solve service problems highlighted by citizens. By taking advantage of the 311 system, public managers can resolve the dissatisfaction of citizens.

## WEAKNESSES

- + Citizen Response Management in governments is far more difficult and politically charged because of long-standing perceptions that government is not concerned about citizens' voices or dealing digitally with citizens' affairs.



INFRASTRUCTURE



# ASSESSING TRENDS OF DIGITAL DIVIDE WITHIN DIGITAL SERVICES IN NEW YORK CITY

TRISHA SHARMA, RICHARD LEGARDA, SOMESH SHARMA  
JULY 2020

## SYNOPSIS

With the ascension of the new digital economy, conventional means of access have found themselves completely reshaped from the ground up and the paradigm of service provision has shifted towards the online space. Daily services have now found themselves intrinsically tied to various online apps as the digital economy aims at increasing the coverage of services and providing equitable access to all users . While the transition of services to the digital realm has certainly acted as a liberating vessel for many individuals, it has not come without its pitfalls. Chief among these is the concept of the digital divide. As a result of this, many individuals who are technically averse in an online sensibility have found themselves at odds with a concept that is in theory marketed as open and inclusive. With an in-depth empirical study of New York City.

## STRENGTHS

- + Findings of this research highlighted key areas where policy action is urgently needed. It may help policymakers in bringing right regulatory mechanisms in place and prevent the digital divide becoming a potential barrier to the advancements in digitally provided services.
- + This research explains the conditions (and factors) within the digital economy that is causing a digital divide in New York. The focus of this research is specifically on digital media and its subsequent provision of services & accessibility.

## WEAKNESSES

- + Deficiencies concerning the digital divide is its ambiguous nature. Be it in definition, the multifaceted nature of it, and the accompanying research that is associated with it.



INFRASTRUCTURE

# UNDERSTANDING THE SURPRISING AND OVERSIZED USE OF RIDE-SOURCING SERVICES IN POOR NEIGHBORHOODS IN NEW YORK CITY

CAROL ATKINSON-PALOMBO, LORENZO VARONE, NORMAN GARRICK | UNIVERSITY OF CONNECTICUT  
JUNE 2019

## SYNOPSIS

For-hire vehicle trips in the five boroughs of New York City from 2014 to 2017 increased by 82 million annually (46%). This paper describes how factor analysis and cluster analysis were used to create a typology that was applied to quantify how usage patterns have evolved in different types of neighborhood. Having surged 40-fold, ridesourcing trips originating in the outer boroughs now constitute 56% of the overall market. It is possible that these trips in the outer boroughs are being taken by local residents to fill gaps in mobility services, as these locations are less well-served by public transportation and other for-hire vehicles such as yellow taxis. The surge in ridesourcing trips in the outer boroughs is important for three reasons. If the trips represent induced travel, the associated externalities will negatively affect vehicle emissions, greenhouse gas emissions, and transportation safety.

## STRENGTHS

- + Instead of being incorporated wholesale, emerging transportation technologies will have a distinct geography that will be shaped by the particular setting.
- + Mobility on Demand (MOD) describes new transportation technologies that allow consumers to access mobility, goods, and services at their own convenience.
- + If ridesourcing is being used to provide desired levels of accessibility by outer borough residents, having this need filled by for-profit entities with notoriously variable pricing structures could have long-term consequences for transportation equity.

## WEAKNESSES

- + All stakeholders should reassess how disruptive transportation technology companies are regulated with respect to data sharing.
- + Many of the outer borough neighborhoods in which ridesourcing trips originated are home to minority, relatively low-income populations with low car ownership rates.



INFRASTRUCTURE

# CHARACTERISTICS OF TELEHEALTH USERS IN NYC FOR COVID-RELATED CARE DURING THE CORONAVIRUS PANDEMIC

ELLERIE WEBER, SARAH MILLER, VARUNA ASTHA, TERESA JANEVIC, EMMA BENN  
DECEMBER 2020

## SYNOPSIS

The response to COVID-19 has involved an unprecedented expansion in telehealth. While older Americans and minority populations among others are known to be disadvantaged by the digital divide, few studies have examined disparities in telehealth specifically, and none during COVID-19. This study uses data from a large health system in NYC – the initial epicenter of the US crisis – to describe characteristics of patients seeking COVID-related care via telehealth, ER, or office encounters during the peak pandemic period. Demographic factors are significantly predictive of encounter type. Of any age group, patients 65+ had the lowest odds of using telehealth versus other modalities. By race and ethnicity, Black and Hispanic patients have lower odds of using telehealth versus either the ER or an office visit than either Whites or Asians – this remains true even after adjusting for age, comorbidities and preferred language. Additional research into sociodemographic heterogeneity in telehealth use is needed to prevent potentially further exacerbating health disparities overall.

## STRENGTHS

- + The response to COVID-19 has involved an unprecedented expansion in telehealth. While older Americans and minority populations among others are known to be disadvantaged by the digital divide, few studies have examined disparities in telehealth specifically, and none during COVID-19.
- + Demographic factors, including race/ethnicity and age, were significantly predictive of telehealth use.

## WEAKNESSES

- + Additional research into sociodemographic heterogeneity in telehealth use is needed to prevent potentially further exacerbating health disparities overall.



HEALTHCARE



# DIGITAL INEQUALITIES IN TIME OF PANDEMIC: COVID-19 EXPOSURE RISK PROFILES AND NEW FORMS OF VULNERABILITY

LAURA ROBINSON, JEREMY SCHULZ, ANEKA KHILNANI, HIROSHI ONO, SHELIA R. COTTEN, NOAH MCCLAIN  
LLOYD LEVINE, WENHONG CHEN, GEJUN HUANG, ANTONIO A. CASILLI, PAOLA TUBARO, MATÍAS DODEL  
ANABEL QUAN-HAASE, MARIA LAURA RUIU, MASSIMO RAGNEDDA, DEB AIKAT, NATALIA TOLENTINO  
JULY 2020

## SYNOPSIS

This article argues that new kinds of risk are emerging with the COVID-19 virus, and that these risks are unequally distributed. As we expose to view, digital inequalities and social inequalities are rendering certain subgroups significantly more vulnerable to exposure to COVID-19. Vulnerable populations bearing disproportionate risks include the social isolated, older adults, penal system subjects, digitally disadvantaged students, gig workers, and last-mile workers.

Digital inequalities are directly and increasingly related to both life-or-death exposure to COVID-19, as well as excess deaths attributable to the larger conditions generated by the pandemic.

## STRENGTHS

- + Maps out the intersection between COVID-19 risk factors and digital inequalities on each of these populations in order to examine how the digitally resourced have additional tools to mitigate some of the risks associated with the pandemic.
- + Sheds light on how the ongoing pandemic is deepening key axes of social differentiation, which were previously occluded from view. These newly manifested forms of social differentiation can be conceived along several related dimensions.

## WEAKNESSES

- + These risks have to do with the capacity individuals have to control the risk of pathogen exposure.; In order to fully manage exposure risk, individuals would have to control their physical environment to the greatest extent possible in order to prevent contact with potentially compromised physical spaces.



HEALTHCARE

# ELEVATE INSTRUCTION TO AN ONLINE ENVIRONMENT

HEINI SHI, JACE HARGIS | NYU SHANGHAI  
OCTOBER 2020

## SYNOPSIS

Providing online learning opportunities has been seen as a two-sided coin for decades. Some perceive an online learning environment as a suboptimal area for providing education. Others have seen online learning with potential for engaging students in authentic ways and capitalizing on the vast research in the area of informal settings. This paper shares key points to consider when migrating face-to-face courses online. In our situation, there were additional challenges of rapid time, stress, unknown expectations, and an uncertainty of how the material would be received, integrated and if the course would ever be offered in this format again.

In an attempt to address a broad approach to teaching and learning online, we used the framework of ELEVATE, which represents Empathy, Learning Outcomes, Erudite, Value, Assessment, Technology and Emotion.

## STRENGTHS

- + The conversation shares our experiences of integrating appropriate, relevant and meaningful technology into teaching.
- + In the context of the current circumstances, given limitations, the approach is pragmatic and empathetic.

## WEAKNESSES

- + Humans generally have diverse preferences for a variety of reasons, often due to our prior experiences.
- + For educators to better prepare for a diverse and flexible workforce of tomorrow, they should reflect and be ready to revise and propose alternatives to some aspects of education which have not shown to be as effective over the years.



EDUCATION

# BEST PRACTICES FOR IMPLEMENTING REMOTE LEARNING DURING A PANDEMIC

HAINI MORGAN | UNIVERSITY OF SOUTHERN MISSISSIPPI  
APRIL 2020

## SYNOPSIS

In response to the spread of COVID-19, a new coronavirus, many U.S. schools have implemented remote learning. This approach to education can prevent students from experiencing setbacks during school closures. However, some schools do not have enough resources to provide learning opportunities for students, and not all children have internet access at home.

Schools that can implement online learning equitably can improve their approach if they follow the guidelines of reputable organizations such as the International Society for Technology in Education.

## STRENGTHS

- + The schools with the technology to provide online education can prevent students from falling behind academically.
- + Educators can implement this type of instruction using the guidelines published by reputable organizations such as the International Society for Technology in Education (ISTE).
- + In an effort to keep Americans connected during the pandemic, many telecommunications firms, like AT&T and Comcast, made commitments to open Wi-Fi hotspots and not to terminate service to customers who cannot pay their bills.

## WEAKNESSES

- + Not all schools have online learning systems, a situation that will likely contribute to learning setbacks.
- + These closures could affect students who depend on their schools for meals and impact parents who rely on schools for child care programs such as difficulty concentrating or falling asleep.



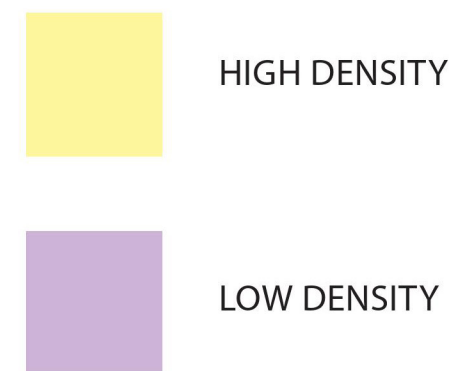
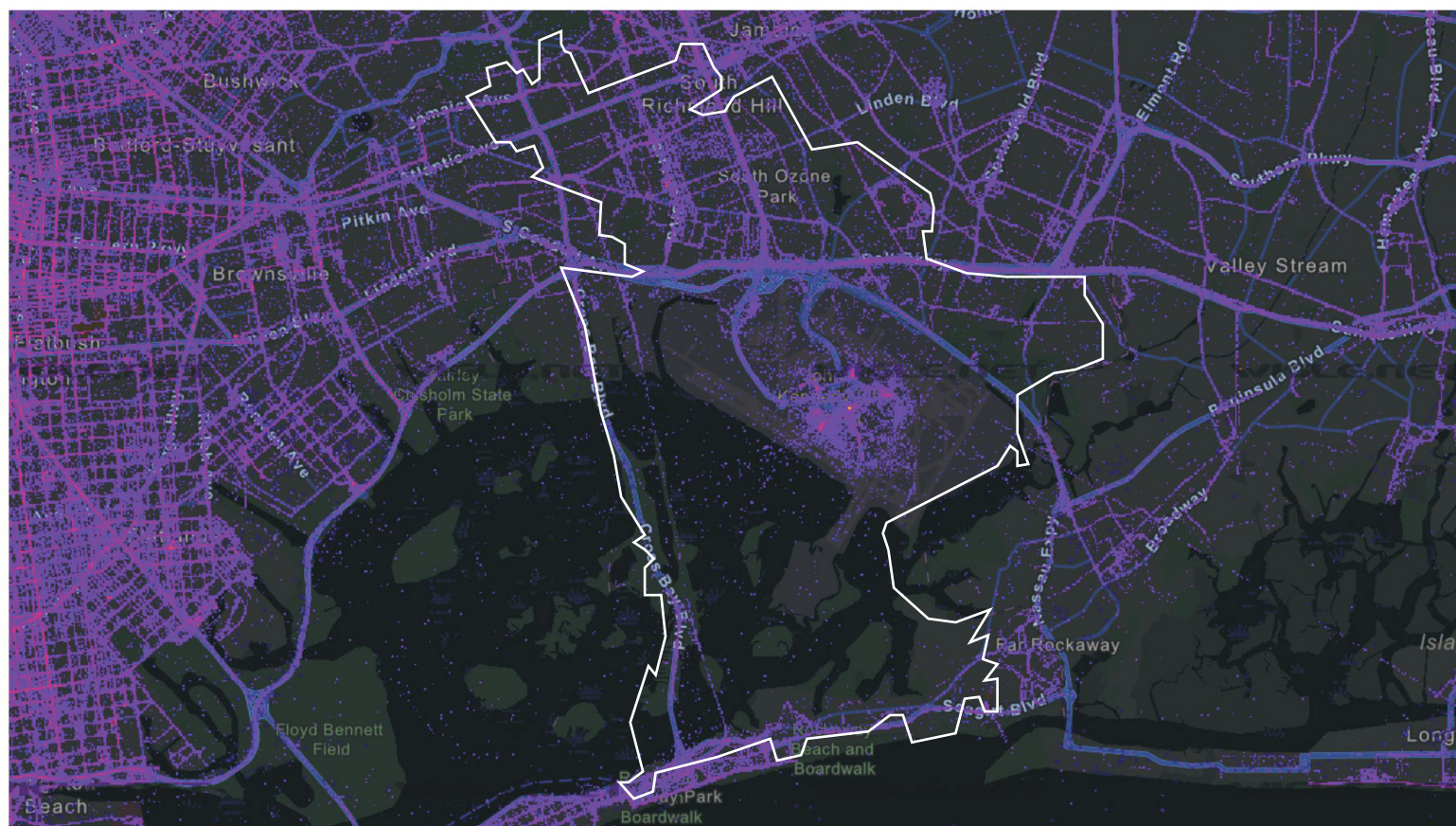
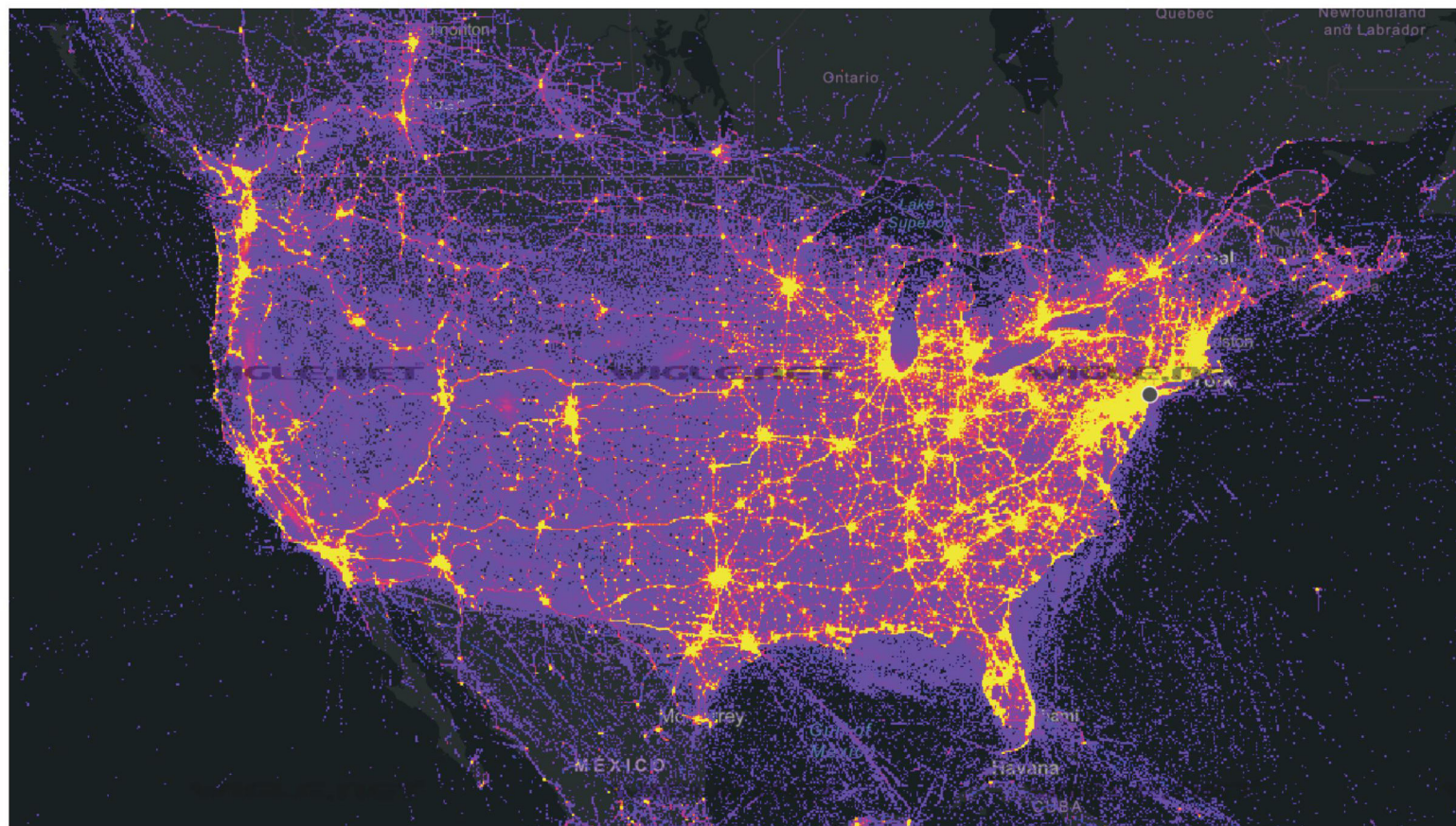
EDUCATION

# MAPPING ANALYSIS

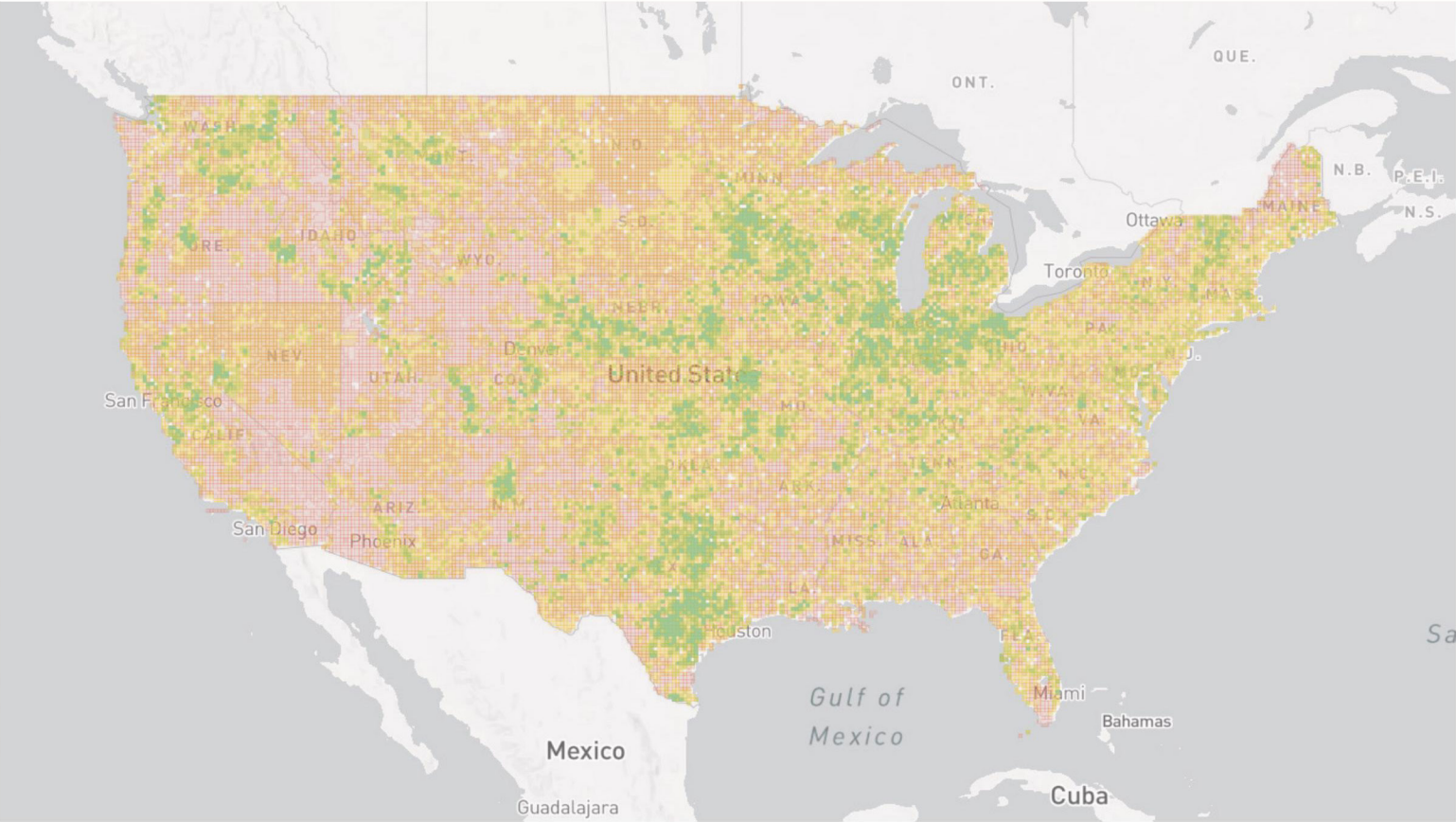


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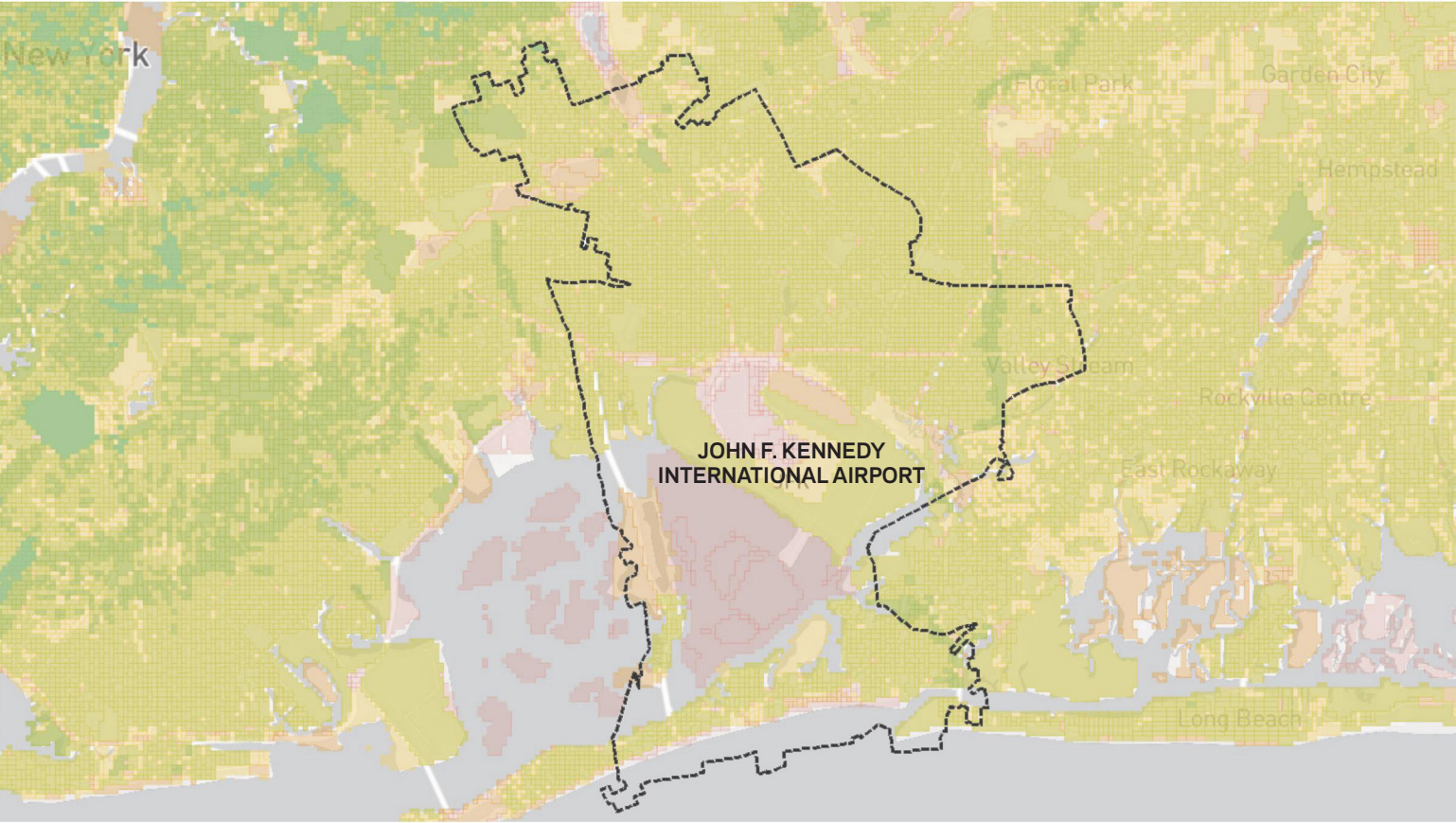


USA

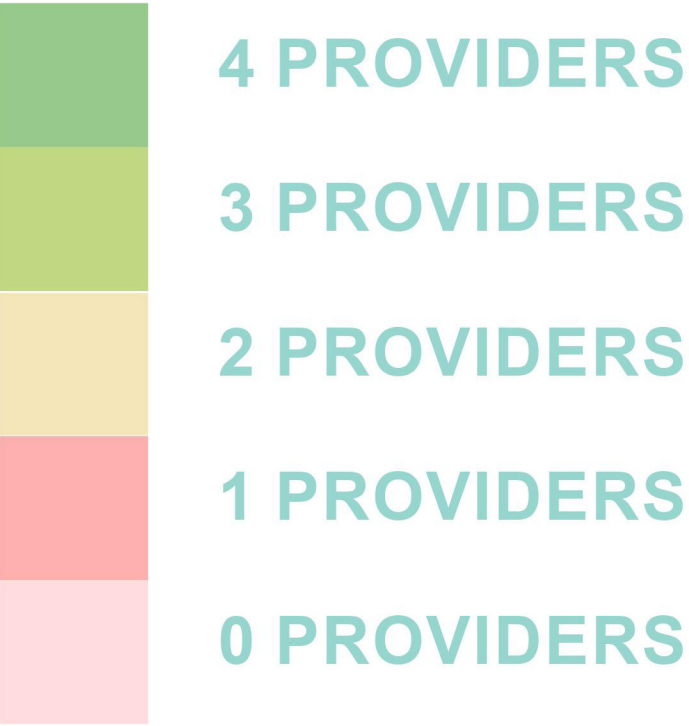


NEW YORK CITY

<https://broadbandnow.com/national-broadband-map>



NY SENATE DISTRICT 10





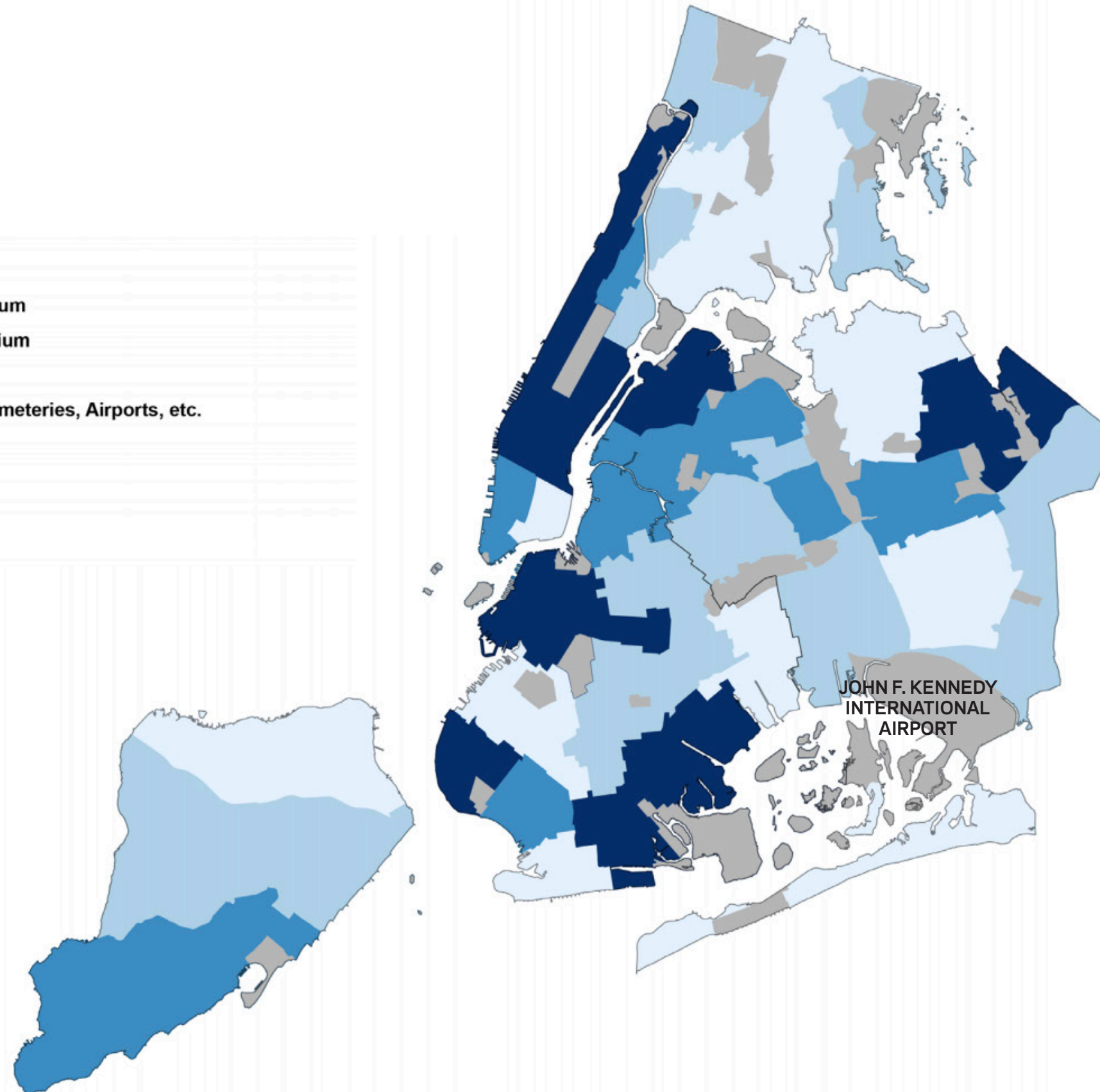


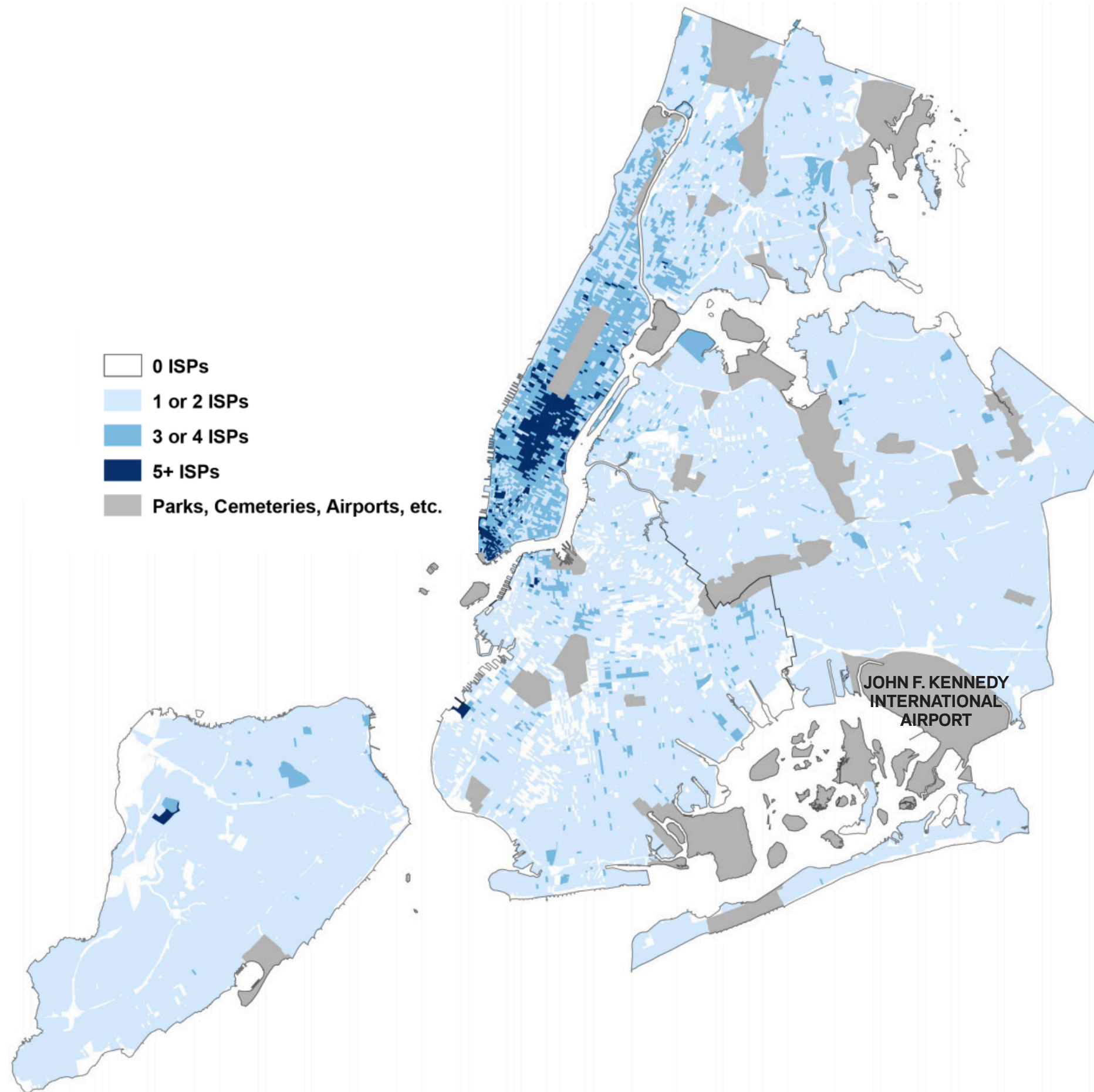
**Wi-Fi Hotspot Locations**

- ▲ LinkNYC - Citybridge
- ▲ QPL
- ▲ SPECTRUM
- ▲ Transit Wireless
- Shoreline
- ▭ NY State Senate District 10
- ▭ Community Boundaries (9,10,12,13,14)
- Park

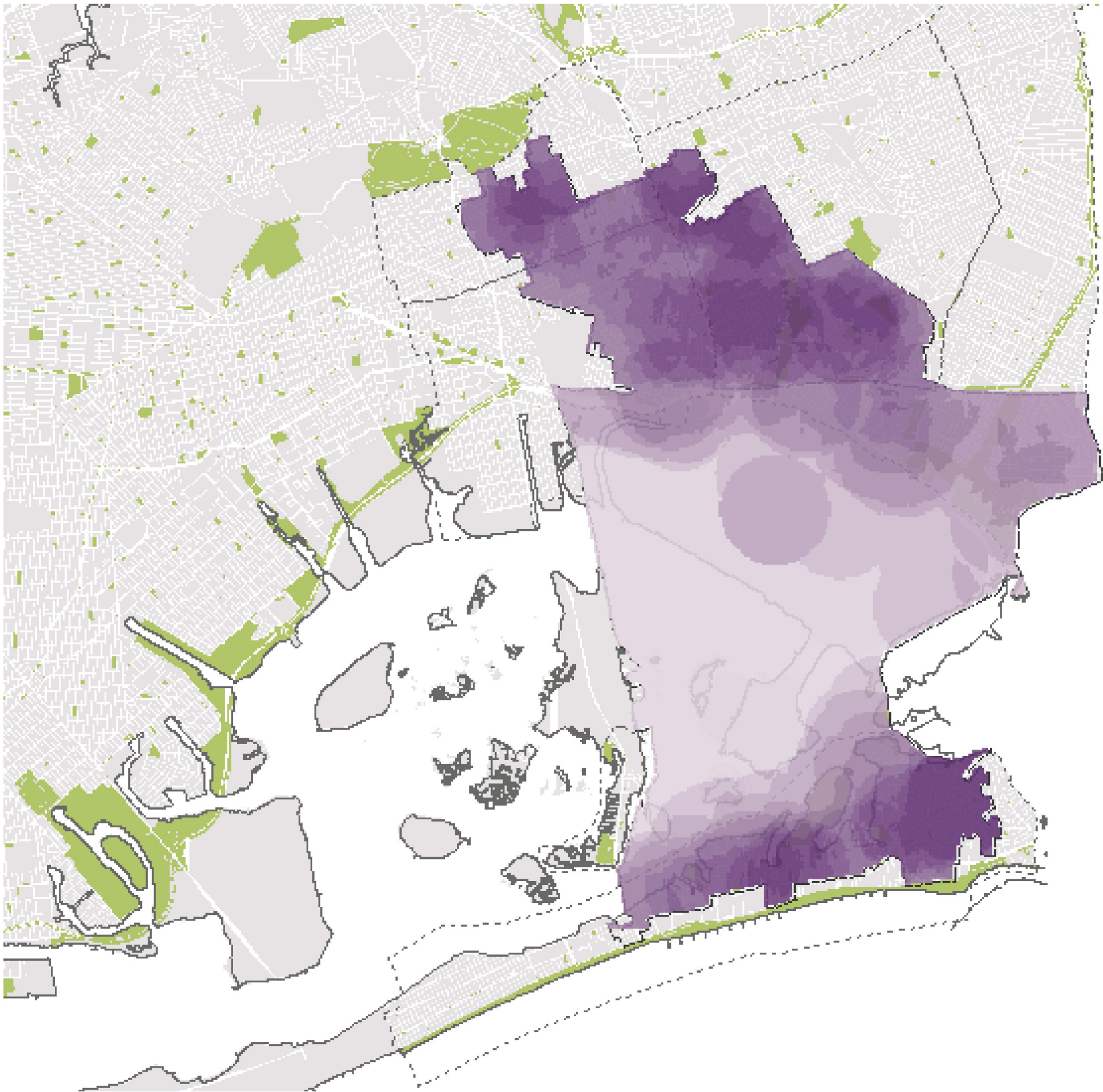








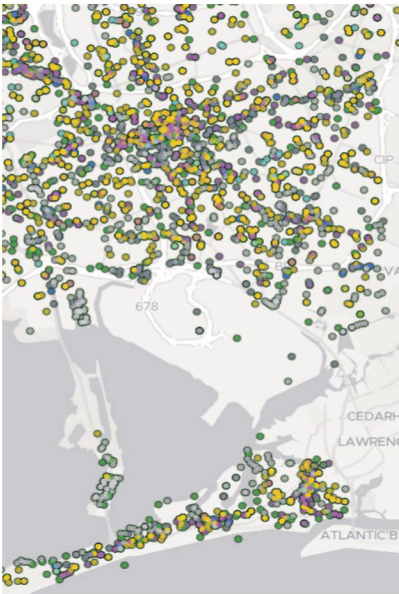




# Facilities Density

## Facilities and Program Sites

- Education, Child Welfare, and Youth
- Parks, Gardens, and Historical Sites
- Libraries and Cultural Programs
- Public Safety, Emergency Services, and Administrative Justice
- Health and Human Services
- Core Infrastructure and Transportation
- Administration of Government



## Facilities Density

- Low
- 
- 
- 
- 
- 
- 
- 
- High
- Shoreline
- NY State Senate District 10
- Community Boundaries (9,10,12,13,14)
- Park









<https://capitalplanning.nyc.gov/facilities>





**Medical Facilities**

-  Non-public(95)
-  Public(2)
-  Shoreline
-  NY State Senate District 10
-  Community Boundaries (9,10,12,13,14)
-  Park



# CASE STUDIES



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# RED HOOK WIFI INITIATIVE (RHI)

## ISOLATION DRIVES INNOVATION

Due to the location of Red Hook, Brooklyn, between the Red Hook Channel and the Buttermilk Channel, many of its residents face various challenges in accessing broadband service. A survey found out that many people in the area accessed the internet primarily through mobile phones and that over 30% of the population did not have broadband access at home.

First Red Hook WiFi mesh network node (Ubiquitous Nanostation) installation on the Red Hook Initiative rooftop Running (PoE) Ethernet cable to install a mesh network node on the roof of apartment building north of Coffey Park

Red Hook Initiative, a local community center for young adults in Red Hook, had been planning to set up their wireless internet connection across Red Hook before Sandy hit. This became a huge hub for coordination efforts, and during that time, it wasn't planned for Red Hook WiFi to be that backbone of communication, but it really showed the possibility of a network in a central neighborhood.

Beginning in Fall 2011, the RHI approached the Open Technology Institute about collaborating on a community wireless network. RHI wanted a way to communicate with the residents immediately around its community center. When the network was initially launched, it had support for up to 150 simultaneous users and ran on an open-software platform called Commotion.

The system is built on gateway and access points that keep the signal strong between buildings. Some of the stations are powered by solar energy, so in the event of a power outage the community can stay connected.

Over time Red Hook WiFi will expand to provide free internet service throughout the commercial corridors of the community, using 40+ access points and 14 resilient hotspots. Resilient Hotspots are sites equipped with alternative power sources to ensure continuity in the event of power outages.







# HOUSTON INDEPENDENT SCHOOL DISTRICT (HISD)

## DIGITAL LEARNING CENTERS

HISD's 36 Digital Learning Centers will be open weekdays from 8 a.m. - 3 p.m. and provide eligible students with much-needed resources. According to the district, HISD will provide a ride to and from the center for students.

## FINANCIAL SUPPORT

The Moody Foundation is giving the Houston Independent School District a \$1 million grant to help Texas' largest public school district purchase of more than 2,000 devices for students in need.

The grant will cover devices for Pre-K through fifth-grade students in the district's achieve 180 schools, which are underserved an underperforming HISD feeder pattern communities.

About 35% of HISD's 209,000 students lacked internet at home at the beginning of the COVID-19 pandemic. About 40 to 45% lacked a computer or laptop device.

## CHURCHES FILLING THE GAP

10 United Methodist churches are partnering with HISD to provide a safe space for students to gather. The church provides the space, volunteers, and WIFI while HISD provides the crossing guards and meals.





# NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION (NYC EDC)

We also had the opportunity to interview folks at the Economic Development Council of NYC (abbreviated as EDC). In addition to helping businesses grow, EDC has special task forces and initiatives put in place to help marginalized communities succeed. For example, the M/W/DBE helps minority, women-owned, and disadvantaged business enterprises (M/W/DBEs) overcome challenges. EDC also has an Equity Task Work Force that works specifically to eliminate disparities within marginalized communities. Initiatives like these are especially relevant during a pandemic.

Other EDC initiatives like the Jamaica Revitalization Initiative is an initiative meant to spearhead the revitalization of downtown Jamaica in the hopes it will become more technologically competitive. EDC also works on infrastructure projects to help communities create infrastructure that doesn't exist; they have about \$120 million to spend on broadband disparities and are working closely with the mayor's office to implement broadband access for all.





# LINKNYC KIOSKS

## MANHATTAN TAKES ALL

New York City HAS hundreds of LinkNYC kiosks that provide free Wi-Fi service. However, low-income neighborhoods are getting left behind.

There more kiosks in Manhattan than in the other four boroughs combined. Many of these kiosks are in affluent neighborhoods that have access to Wi-Fi. However, neighborhoods that are poorer or middle income seldom have even one kiosk.

The city's Department of Information Technology & Telecommunications oversees LinkNYC, while CityBridge — a group of tech companies including Qualcomm and Civiq Smartscapes — assumes responsibility for installation of the kiosks in exchange for the advertising revenue generated by the project. That bargain may be letting the city offer the service at no cost to taxpayers, but Vacca said those profit incentives — not concerns of equity — are guiding CityBridge's involvement in the project.

## UNLINKING REVENUE

A report by committee staff confirms this. A city contract with CityBridge set a goal of 510 kiosks operational by fiscal year 2016, and while the city has 558 kiosks installed, only 434 are active, owing to technical difficulties. Analysts also found that the city has just two of a promised 20 kiosks installed in Staten Island — neither of which are active — while Brooklyn has only two functional kiosks of a scheduled 62.







# QUEENS PUBLIC LIBRARY (QPL)

## MORE THAN A LIBRARY

In terms of models we can emulate, the Queens Public Library (QPL) System is one of the more organized and illustrious systems in NYC, and possibly the country. We had the chance to speak with three members of the team who provided us with invaluable information about how QPL operates and how it has adapted to the pandemic.

Normally, QPL offers in-person programs ranging from a maker-space workshop to a resume-building session to programs that help new citizens assimilate into American society. The QPL system has been so much more than just a library system for its community. When the pandemic first forced students to study from home in March, QPL set up a system that allowed families to borrow iPads with Wifi Hotspots for students in public schools; this system was also supported by the Department of Education.

## BROADER REACH ONLINE

When QPL moved forward with its programming and shifted to connecting with their community online, they were surprised to find that they were reaching a much more diverse audience. Before, their in-person workshops were only available for Queens residents. Now, although numbers have decreased in volume, the WebX format has allowed them to reach people in places like Forest Hills, other parts of the country, and even international places like Hong Kong and Singapore.

## WHAT'S NEXT

Moving forward, QPL plans to continue doing a hybrid of their in-person and online models, though they realize it is costly. The QPL and other Public Libraries in NYC all have good relationships with the CTO's office, but the QPL especially has a great relationship as the CTO is their funding primary source.



# SCHOOLS, HEALTH, & LIBRARIES BROADBAND COALITION (SHLB)

## ANCHOR INSTITUTIONS AS A SOLUTION

The Schools, Health & Libraries Broadband (SHLB) Coalition is a non-profit organization that has a wide range of members from across the United States and is headquartered in Washington, D.C. SHLB's mission is for every anchor institution to have affordable, high-quality broadband that serves the needs of the institution and is open and accessible by the surrounding community. SHLB works with federal, state, and local policy-makers, anchor institutions, and the broadband industry to promote programs

SHLB promotes embracing new technologies and incentivizes investment in both wired and wireless networks, especially in rural markets.

## POLICY FOCUS AREAS

- E-rate
- Infrastructure Legislation
- Rural Health Care
- Connect America Fund
- Lifeline





# RECOMMENDATIONS

# 7-STEP FINAL APPROACH

1

Determine the need.

2

Create specific and measurable goals.

3

Invest equitably.

4

Keep it local.

5

Obtain and distribute devices.

6

Train and empower users.

7

Get everyone connected.





# CREATION OF A TASK FORCE

## Recommended Members/Stakeholders:

CTO's Office, Internet Service Providers, Port Authority, QPL, NYSDE, NYDoH, Borough Presidents, Faith-based leaders



# PROGRAMMING POSSIBILITIES



## ESTABLISH A TECH BANK

- + Many school children in the district have access to iPads, but not accessories such as Keyboards, WiFi Extenders, Routers, Laptops, and Chromebooks that students in higher income parts of the city have access to. This further perpetuates the Digital Divide.
- + A tech bank could have these devices available for



## SUBSIDIZE INTERNET SERVICE PRICES

- + A free or reduced internet program could be introduced by working with private sector internet providers (Charter Spectrum and AT&T)
- + Guidelines to prioritize recipients including seniors, students, public housing residents, should be



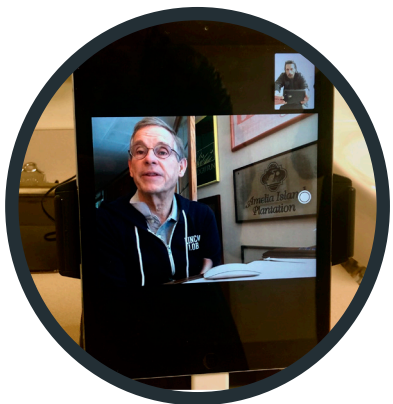
## DIGITAL INNOVATION EQUITY FUND

- + A fund could be established to provide grants to organizations that have a proven track record of bridging the Digital Divide
- + Could range anywhere from \$500 to \$25,000
- + Not intended for start ups, but for community organizations
- + Could prioritize Minority, Women, and Disadvantaged-Owned Business Enterprises (MWDBE).



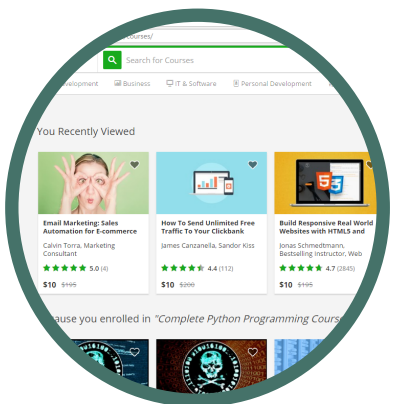
## "BYOD" TRAINING SESSIONS

- + "Bring your own device" training sessions would allow community members to bring their own devices, and have a trained instructor teach them basic functions including: Sending email, Microsoft suite, keeping it update, deleting and organizing files (for computers), taking pictures and videos, responding and deleting texts, downloading apps, connecting to WiFi (for smartphones)



## TELEHEALTH DELIVERY

- + Equip local clinics and medical centers that serve the most vulnerable populations with technology that allows them to safely check on their patients
- + Additional training would be required for medical workers



## SKILLSHARE, HARVARDX, AND OTHER ONLINE LICENSURE COURSES

- + If the Senator's office bought a group license, residents would have access to over 22,000+ courses for no cost to them.
- + This would allow them to learn new skills, leading to better employment prospects, complete with official licensure/certification
- + Could also supplement K-12 education, similar to having a tutor



# CONCLUSION

If there is one thing clear from this analysis, it is that there is no one solution to solving the digital divide. Some researchers believe that relief lies in eradicating market pressures, with decreasing hardware and connectivity costs inevitably leveling the digital playing field. While this is a partial solution, with falling technology costs indeed allowing more people to participate in the Internet revolution, but the digital divide isn't simply an issue of whether everyone can afford access to the Internet. It is also a matter of connectivity, accessibility, knowledge, and consistent service.

As cities move from immediate response to long-term sustainability, they should monitor their progress against specific, measurable goals that are realistic for their own community. Local context is key, and what works for one city may not work for another. It is even likely that what works for one neighborhood within a city, may not work for another neighborhood. Investing in municipal-owned broadband as a public utility, much like cities and their residents invest in reliable electricity and safe roadways, is the best bet for sustainable, robust, equitable technology access.

For Senate District 10 specifically, we have seen amazing, robust, and targeted initiatives spearheaded by community members, leaders, and actors. It is to this group that we tailored our proposals, and that we believe -- with significant support, funding, and organization -- hold the key to closing the divide in the district.



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