



# BEDFORD STUYVESANT DIGITAL ACCESS NEEDS

Finding from the community need assessment  
for the BklynConnect pilot project.



# BEDFORD STUYVESANT'S DIGITAL ACCESS NEEDS CONTENTS

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- 3** Introduction
- 4** Broadband in the US
- 5** Methodology
- Bedford Stuyvesant:
  - 6** Neighborhood Snapshot
  - 8** Broadband Access
  - 10** Wi-Fi Locations
  - 12** Existing Internet Access Initiatives
  - 14** Library Services
- 16** Neighborhood Opportunities

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## **PROJECT CREDITS**

BklynConnect documents a project undertaken by the Brooklyn Public Library, and TYTHEdesign. This project is made possible in part by the [Institute of Museum and Library Services \(IMLS\)](#) National Leadership Planning Grant.

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**Brooklyn Public Library (BPL) is committed to serving a diverse community in Brooklyn. Through BklynConnect, BPL aims to address the needs of the community in a time where technological innovations are drastically changing the role of libraries.** To cater to the evolving needs of the community, BPL is exploring new models and technologies for engaging with patrons. One opportunity is to provide public Wi-Fi access outside the four walls of the library, utilizing mesh networks, point-to-point networks, or portable hotspots.

The overall purpose of BklynConnect is to uncover neighborhood broadband needs collectively, the opportunities for programming/services such as access to information, education digital literacy and inclusion, to collaborate with fellows and to provide a playbook to share strategies and document the research process.

This document is the result of many conversations, workshops with community partners, neighborhood surveys, data research, tabling experience and fieldwork.

The report can be used as:

- a guide to understanding digital access and literacy in Bedford Stuyvesant
- a shared resource for existing initiatives and Wi-Fi access points in the neighborhood
- a comprehensive overview of relevant data and community insights
- a starting point for future public Wi-Fi initiatives or education services.

Life is becoming increasingly digital. Whereas we used to access the internet for email or browsing, it has now become an important component of everyday life. Fundamental services such as applying for government benefits, accessing education and applying to jobs are increasingly done online making access to Wi-Fi a necessity. However, having Wi-Fi at home is expensive, and not everyone is comfortable with the technology. Many cities have made bridging this digital divide a top priority; the NYC Mayor's Office, under the OneNYC plan, aims to give every resident affordable, reliable and good quality broadband by 2025.

BPL launched BklynConnect with a grant from the Institute of Museum and Library Services (IMLS). BPL will pilot a small scale public Wi-Fi access point in one Brooklyn neighborhood through a process of co-creation, while simultaneously using the opportunity to learn about the neighborhood needs and existing assets and initiatives. The following report details what we found out during our work and research with the neighborhood of Bedford Stuyvesant.

# WHO HAS ACCESS ACROSS THE USA?

Checking your email, going on Facebook, searching for job listings, sending in applications, playing an online game, seeing the latest music videos, filing taxes, applying for housing, using e-government, finding directions, and just surfing the internet. Access to Wi-Fi, and the digital literacy needed to navigate the internet, has become a critical component to social inclusion.

According to Pew Research Center (2015), **broadband access, or access to high-speed Internet, in American households has plateaued at 67%<sup>1</sup>**. While 76% of households in Brooklyn had home broadband access in 2014<sup>2</sup>, many families still struggle with low-quality service, service cutoffs, or old technology<sup>3</sup>.

**Approximately 33% of Americans lack broadband access at home**, and the majority of those people state cost as the most important reason. An increasing number of Americans are now smartphone-only, meaning they don't access the internet via a home computer Wi-Fi connection, but do have a data plan. This can be challenging due to data ceilings or limited usability of their devices<sup>4</sup>.

So where would you go to find Wi-Fi elsewhere? Some people go to local community centers; others go to the library or find a local café with Wi-Fi. According to Mayor de Blasio, every New Yorker should live within an eighth of a mile to a place that provides free Public Wi-Fi<sup>5</sup>.

Let's clarify some digital definitions so we are on the same page for the remainder of this document.

**Broadband Access:** This term refers to having high speed internet in the home, and specifically, the ability to transfer large files and 'stream' data. This is when you connect to the internet using a physical cable, be it a telephone line (DSL) or a cable line (cable), or a fiber optic line (FIOS). It is typical for Broadband in the home to include a Wi-Fi network. But broadband does not include Wi-Fi through a phone connection.

**Digital Divide:** This refers to the divide between people that do have access and people that don't have access to broadband. It often is the already vulnerable populations that lack access to broadband such as lower income populations or homeless populations. Broadband access is particularly important for locating and applying for opportunities that support family well-being and mobility, including jobs, access to health care, and poverty alleviation programs<sup>6</sup>. Once the access to the computer has been established, the digital divide is focused more on digital computing such as coding skills.

**Digital Literacy:** Not everyone is confident with technology. Digital literacy refers to the ability to not only connect to the internet but to also have the skills, knowledge, and familiarity in using the technology (internet and computer). Populations that are vulnerable to digital illiteracy include elderly populations and low income households<sup>7</sup>. To take it one step further, Pew (2017) refers to Digital Readiness as being able to use Digital resources for learning purposes, such as adult education<sup>8</sup>.

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<sup>1</sup>Horrigan, John B., and Maeve Duggan. "Home broadband 2015." Pew Research Center, December 21 (2015): 4.

<sup>2</sup> Mayors Office of Operations. Social indicators reports. New York City. (2016).

<sup>3</sup> Rideout, Victoria, and Vikki S. Katz. "Opportunity for All? Technology and Learning in Lower-Income Families." In Joan Ganz Cooney Center at Sesame Workshop. Joan Ganz Cooney Center at Sesame Workshop. 1900 Broadway, New York, NY 10023, 2016.

<sup>4</sup> Horrigan and Duggan, "Home broadband 2015".

<sup>5</sup> Mayors Office of Operations, "Social indicators reports"

<sup>6,7</sup> Rideout and Katz, "Opportunity for All?"

<sup>8</sup> Horrigan, John B. "Digital Readiness Gaps." Pew Research Center (2016).

# HOW DID WE GO ABOUT THIS RESEARCH

We used a wide range of research methodologies to investigate three Brooklyn neighborhoods: Bedford Stuyvesant (Bed-Stuy), East New York, and Brownsville. We conducted neighborhood need assessments using traditional research methods such as demographic data research but also employed human-centered design methodologies such as community partner workshops, tabling activities, and collective mapping. Throughout the research, transparency, co-creation and broad usability have been key drivers.

Every research process starts with a question or a goal, so what was it exactly that we are trying to find out? First, we wanted to understand neighborhood context, data, and behavior in relationship to existing Wi-Fi and provide a relevant overview of the state of broadband access. Second, we wanted to provide BPL with some considerations to inform their selection of a pilot neighborhood.

BPL, TYTHEdesign and local library staff co-created the following criteria and research goals:

Assessing Neighborhood demand for free Wi-Fi

- Personal physical access to the internet
- Existing Wi-Fi access points in neighborhood
- Digital literacy in the neighborhood

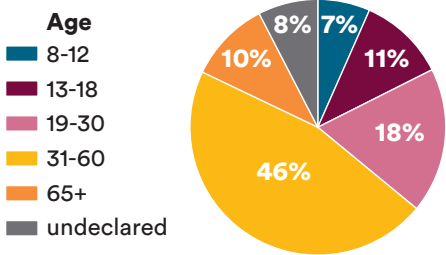
Researching existing neighborhood context and social capital

- The demographics of the neighborhood
- The potential for collaboration with existing social capital (including community based organizations, government agencies, etc )
- Existing neighborhood internet access initiatives

In the spirit of co-creation, transparency and broad usability, our aim is to present our findings with neighborhood organizations, local service providers, local library branches and all other interested parties, ensuring that the neighborhood need assessment is valuable outside of the pilot project.

The need assessment was subject to a couple of limitations. First, working with a short time frame limits the breadth of the research. Also, although the collected social capital and Wi-Fi access points are what we identified during the research period, it doesn't necessarily mean that it is comprehensive; we might have missed or excluded some. Finally, we have predominantly connected to community members that were already interacted with the BPL which leads to pre-existing positive bias or buy-in and fewer counter insights.

**620** **Surveys Collected**  
across all three neighborhoods



**137** **Bed-Stuy Community Surveys Collected**

**10** **Tabling Experiences**  
Estimated at total of 26 hours

**27** **Wi-Fi Hotspots Tested**  
Estimated at total of 9 hours

**155** **Patrons Observed**  
on Library Computers

**27** **Library Staff Surveyed**

**66** **Participants attended the four community workshops**  
15 Bed-Stuy stakeholders

# WHAT NUMBERS MATTER? NEIGHBORHOOD SNAPSHOT

Assessing Bedford Stuyvesant strengths, challenges, needs, and assets through the numbers is an essential first step to better understand its existing neighborhood dynamics. The following two pages provide a snapshot of some of Bed-Stuy's relevant demographics, existing assets and economic factors that impact the neighborhood need for free public Wi-Fi service.

Population<sup>9</sup>  
**150,857**



Households<sup>10</sup>  
**51,065**

16% are NYCHA households

Race &  
Ethnicity<sup>11</sup>

50% Black

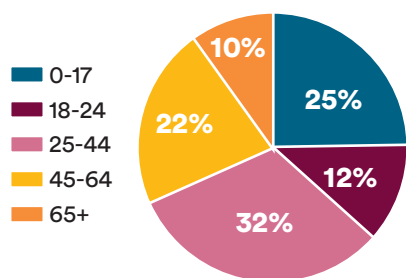
18% Hispanic

27% White

2% Asian

2% Other

Population by age range<sup>12</sup>



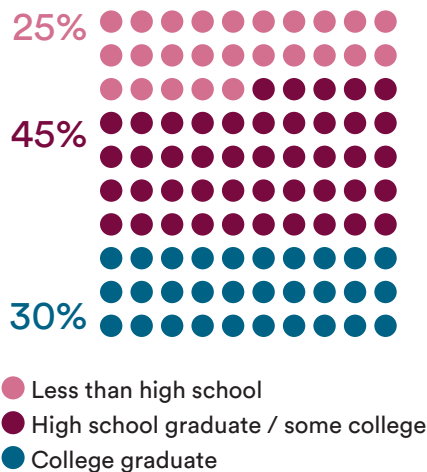
Household Composition<sup>13</sup>

33% are households with children under 18 years

19% are foreign-born, lower than the Brooklyn average of 38%

32% are single mothers

Educational Attainment<sup>14</sup>



Accessibility<sup>15</sup>



100% Residential units within ½ mile of a subway station

91% Residential units within ¼ mile of a park

40 Mean travel time to work (minutes)

Highlights<sup>16</sup>

**29.8 yrs old**

is the median age of the residents, which is slightly lower than the Brooklyn average of 34.7.

**75 yrs old**

is the average life expectancy of people in the neighborhood.<sup>17</sup>

**31%** of people speak other languages than English at home, with the largest percentage being Spanish speakers.

**76%** of the foreign-born population's place of birth is Latin America.

**21.3%** is the home-ownership rate of Bed-Stuy, which is lower than the Brooklyn average of 28.7%.

**66%** of the employed residents use public transportation to get to work.

**\$1240** is the median rent, which is almost the Brooklyn average of \$1,300.

**20.2** is the crime rate per 1000 residents in the neighborhood, which is higher than the Brooklyn average 11.6.

<sup>9,10,11,13,16,18</sup> American Community Census 2015 (1-year estimates)

<sup>12,14</sup> U.S. Census Bureau Population Estimates, 2013

<sup>15</sup> American Community Census 2015 (1-year estimates), NYC Department of Transportation, NYC Department of Parks and Recreation

<sup>17</sup> King L, Hinterland K, Dragan KL, Driver CR, Harris TG, Gwynn RC, Linos N, Barbot O, Bassett MT. Community Health Profiles 2015, Brooklyn Community District 16: Brownsville; 2015; 40(59):1-16.,

<sup>18</sup> Statement of Community District Needs and Community Board Budget Requests for Fiscal Year (FY) 2018

<sup>20</sup> New York City Housing Authority, 2016

<sup>21</sup> IPUMS-USA, University of Minnesota, NYU Furman Center

<sup>22</sup> American Community Census 2015 (1-year estimates) and <https://www.optimum.net>, visited on July 26th, 2017



Category	Count
Food Pantry/Soup Kitchen	24
Youth Services	13
Community organization & Non Profit	14
Workforce development	10
Homeless shelters and services	8
Senior Center	6
Community Health Care	7
NYCHA Community Center	5
Firehouse	2
Local economic development	5
Other	2

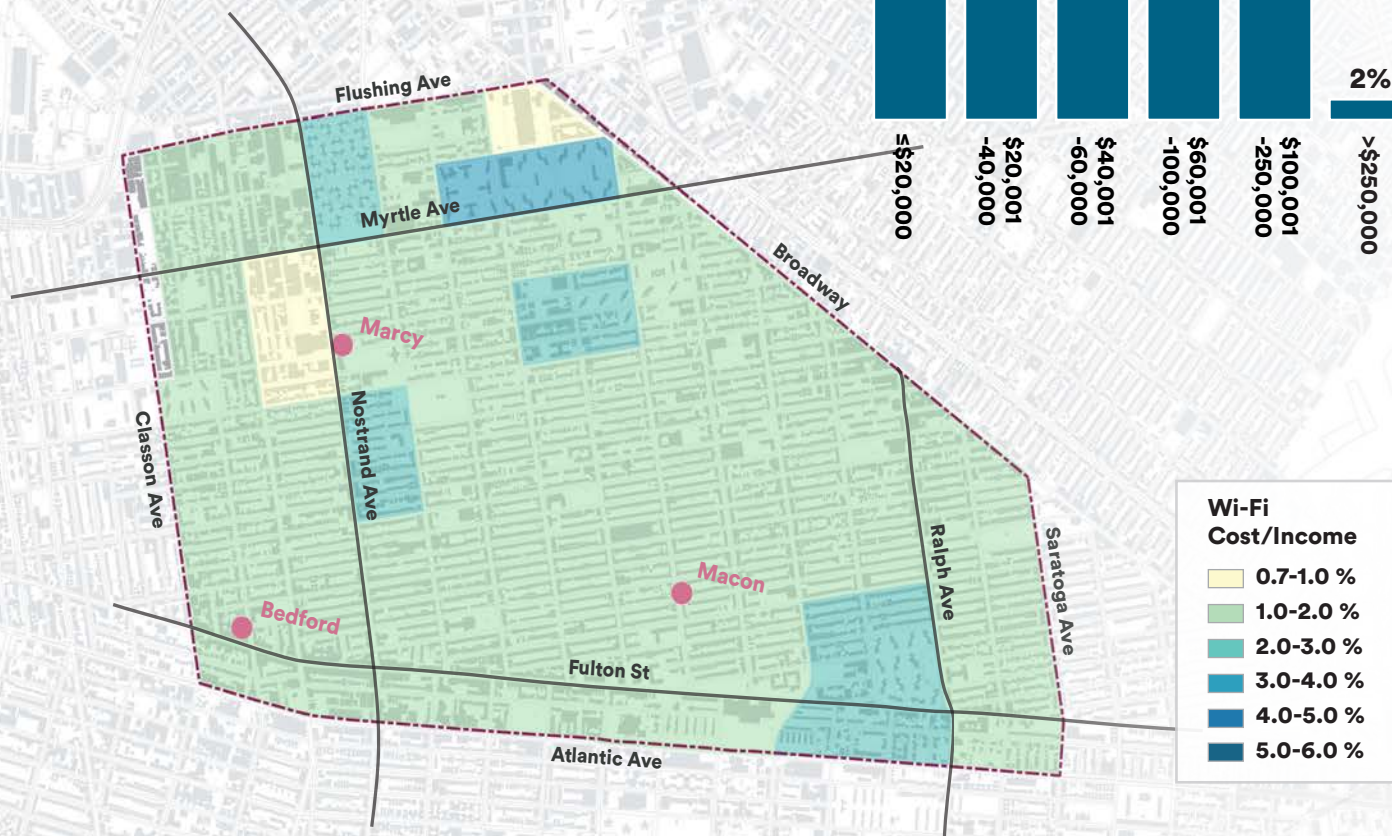
- Affordable Housing
- Crime
- Education

**NYCHA Median Income<sup>20</sup>**  
**\$16,904**

### Cost ratio internet vs household income in the neighborhood

For this purpose, we have estimated the monthly cost at ~\$60 per month (\$39.95 (basis)+ \$10.00(modem)+ \$5.00 (installation)+ tax) for the first year. This is based on the available providers in this neighborhood. [Optimum 60Mbps]

Income Level	Percentage
≤\$20,000	29%
\$20,001-\$40,000	23%
\$40,001-\$60,000	14%
\$60,001-\$100,000	16%
\$100,001-\$250,000	16%
>\$250,000	2%



# WHO LACKS ACCESS TO THE INTERNET?

Let's get down to the question that is at the center of this research: "Who has access to the internet in the neighborhood?". To understand the need and capacity for a free Wi-Fi service in the neighborhood, it is important to look at all factors including broadband access at home, data plans and ownership of devices as this affects what you use the internet for. The American Community Survey (ACS) from 2014 and 2015 provides some insights about Bed-Stuy.

In Bed-Stuy the main provider is Verizon (DSL), followed by Spectrum (cable) and Optimum (Cable). Some parts of the neighborhood have access to Verizon FIOS (~34%), a much faster connection.<sup>23</sup>

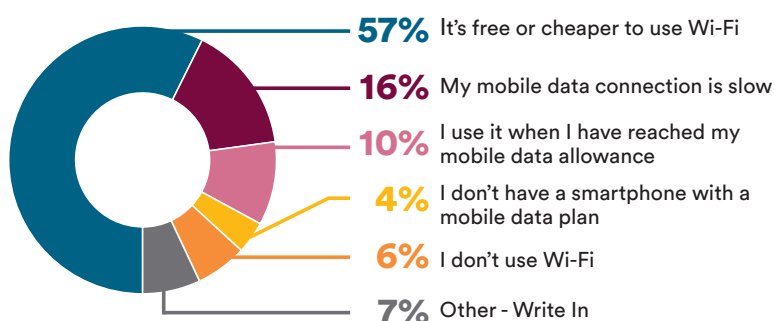
In addition to the information from the ACS it is important to take the residents that don't have broadband at home into consideration. The following information was collected and analyzed through a survey distributed in Bed-Stuy, Brownsville and East New York. A total of 620 surveys were collected. Since there were no large differences between the three neighborhoods, we have decided to compile data for the entire research area.

**67.8%** Household with broadband access<sup>24</sup>  
2.2% lower than the Brooklyn Average: ~70%

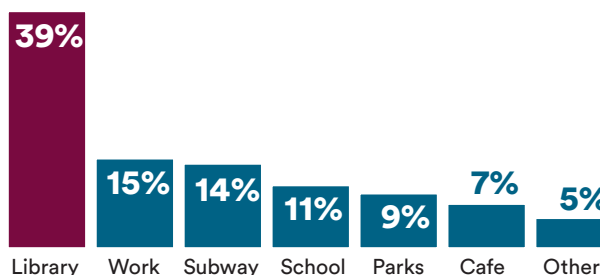
## What devices do people own to access the internet?<sup>25</sup>

**73%** Smart phone or handheld computers      **71%** Desktop, laptop, or notebook computer

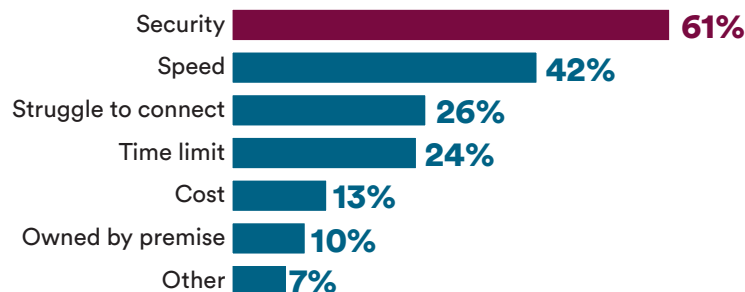
## Why do you use Public Wi-Fi?



## In the last two months, where did you connect to the internet in your neighborhood?



## What concerns do residents have when using public Wi-Fi?



<sup>22</sup> <https://broadbandnow.com>, visited on August 29th 2017

<sup>23,24</sup> American Community Census 2015

<sup>25</sup> American Community Census 2015 (1-year estimates)

Source: The BklynConnect survey (n=598)



“Do you have Wi-Fi at home? No? Why not?” The Pew Research Center (2015) states that cost is the major reason for households not to have internet at home (33%). Another 10% states that the cost of the computer itself is their main reason for not adopting broadband at home. Other reasons include being able to access the internet elsewhere (10%) and having sufficient access via smartphone (12%). There is also an inequality when it comes to quality of services, some areas are underrepresented by broadband providers, other areas are subject to older technologies. Finally, digital literacy can be a reason for not purchasing broadband access, the older generation are sometimes not tapped into the internet.<sup>26</sup>

Increasing access to public Wi-Fi would be beneficial to many people, but some population groups might need it more than others. Let's start off with cost as a reason in mind. Pew's research (2015) shows that households that experience low income, unemployment, homelessness or lack of education are more likely to have barriers to Wi-Fi access.<sup>27</sup> Furthermore, keeping digital literacy in mind, we also consider older adults (65+) a group of higher need<sup>28</sup>. Finally, non-English speaking families are considered to have less access to broadband at home<sup>29</sup>.

Based on the 2014 American Community Survey, 42.8% of the households in the neighborhood do not have broadband access at home. The data does not stipulate who these residents are, but based on the research, the high needs population in Bed-Stuy are the following:

#### What data plans are people paying for?



17%

A pay as you go  
Phone data plan



63%

Monthly phone  
data plan



20%

No data phone  
plans



23%

Always run out of  
data on their phone

#### LOW INCOME HOUSEHOLDS <sup>30</sup>

**29%** households have an **income < \$20,000**  
7% higher than the Brooklyn Average: ~22%

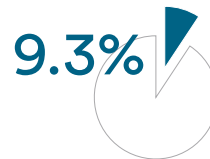
#### NYCHA HOUSEHOLDS <sup>31</sup>

4.8% of all of Brooklyn's  
NYCHA developments  
are in Bed-Stuy.

with seniors **37%**  
with children **37%**

**8438**  
21,178 residents

#### POPULATION 65+ <sup>32</sup>



~14,200 seniors residents  
in Bed-Stuy.  
26% of those are living below  
the poverty line.

#### POPULATION 25+ WITHOUT A HIGH SCHOOL DIPLOMA <sup>33</sup>

~29,700 individuals  
1% lower than the Brooklyn  
average: 19.5%

**18.7%**

#### UNEMPLOYMENT RATE <sup>34</sup>

**9.3%** ~14,200 individuals  
2% higher than the Brooklyn average: 7.6%

#### HOMELESS FAMILIES <sup>35</sup>



**1 in 5 students** have  
experienced homelessness  
in the last 5 years.

**16** Family Shelters  
18% of all in Brooklyn

**274** Family Units  
9.5% of all in Brooklyn

<sup>26,27,29</sup> Horrigan, John B., and Maeve Duggan. "Home broadband 2015." Pew Research Center, December 21 (2015): 4.

<sup>28</sup> Nguyen, Mai Thi, & Emma Boundy. "Big data & smart (equitable) cities." In Seeing Cities Through Big Data, pp. 517-542. Springer International Publishing, 2017.

<sup>30</sup> IPUMS-USA, University of Minnesota, NYU Furman Center American Community Census 2015 (1-year estimates)

<sup>31</sup> New York City Housing Authority, 2016

<sup>32,33,34</sup> American Community Census 2015

<sup>35</sup> NYC Department of Education, unpublished data tabulated by the Institute for Children, Poverty, and Homelessness, NYC Department of Homeless Services, 2016, Institute for Children, Poverty, and Homelessness ICPHusa.org

# WHERE CAN YOU ACCESS THE INTERNET

On this page you find a list of Wi-Fi access points in the neighborhood. There are different ways of accessing the internet outside of the house. We identify three distinct types of Wi-Fi access points:

**Public Wi-Fi:** this is any Wi-Fi that is accessible to everyone and has no cost associated with it e.g. parks, the library and subway station.

**Semi-Public Wi-Fi:** These are places that have free access, or sometimes even computer classes, but there can be prerequisites to using the internet such as being a resident or a member e.g. Workforce 1 Centers, NYCHA community centers, Senior centers.

**Establishment:** These places are open to the public but have a direct or indirect cost affiliated with Wi-Fi e.g. restaurants and coffee places.

We have identified 97 Wi-Fi access points in Bed-Stuy. There are a couple things that stand out. First, the large amount of Wi-Fi access points along Fulton Street, which in large part are provided by LinkNYC. In addition, there are many subway stations that provide free Wi-Fi. Also, there are an enormous number of establishments with Wi-Fi access in the neighborhood. Contrastingly, there is a residential area that has hardly any Wi-Fi access points north of Halsey Street.

## Public Wi-Fi

- 1 **Bedford Library Branch**, 496 Franklin Ave
- 2 **Macon Library Branch**, 361 Lewis Ave
- 3 **Marcy Library Branch**, 617 Dekalb Ave
- 4 **Flushing Ave** (subway)
- 5 **Myrtle Ave** (subway)
- 6 **Kosciuszko St**
- 7 **Gates Ave** (subway)
- 8 **Ralph Ave** (subway)
- 9 **Utica** (subway)
- 10 **Kingston-Throop Ave** (subway)
- 11 **Nostrand Ave** (subway)
- 12 **Franklin Ave** (subway)
- 13 **Classon Ave** (subway)
- 14 **Bedford-Nostrand** (subway)
- 15 **Myrtle-Willoughby** (subway)
- 16 **Saratoga Park**, 112 Howard Ave
- 17 **Herbert von King Park**, 670 Lafayette Ave

## Public Wi-Fi

- 18 **LinkNYC** (Fulton St at Classon Ave)
- 19 **LinkNYC** (Fulton St at Franklin Ave)
- 20 **LinkNYC** (Fulton St at Franklin Ave)
- 21 **LinkNYC** (Fulton St at Arlington Place)
- 22 **LinkNYC** (Fulton St at Marcy Ave)
- 23 **LinkNYC** (Fulton St at Marcy Ave)
- 24 **LinkNYC** (Fulton St at Tompkins Ave)
- 25 **LinkNYC** (Fulton St at Throop Ave)
- 26 **LinkNYC** (Fulton St at Throop Ave)
- 27 **LinkNYC** (Fulton St at Throop Ave)
- 28 **LinkNYC** (Fulton St at Marcus Garvey Ave)
- 29 **LinkNYC** (Fulton St at Marcus Garvey Ave)
- 30 **LinkNYC** (Fulton St at Ralph Ave)
- 31 **LinkNYC** (Fulton St at Saratoga)
- 32 **LinkNYC** (Fulton St at Nostrand Ave)
- 33 **LinkNYC** (Fulton St at Nostrand Ave)
- 34 **LinkNYC** (Fulton St at Nostrand Ave)
- 35 **LinkNYC** (Fulton St at Franklin Ave)

## Semi-Public Wi-Fi:

- 36 **Brevoort Community Center**, 280 Ralph Ave
- 37 **Lafayette Senior Center**, 325 Classon Ave
- 38 **Maria Lawton Senior Center**, 400 Hart St
- 39 **Roosevelt Community Center**, 400 Hart St
- 40 **Sumner Community Center**, 862 Park Ave
- 41 **St Johns Bread & Life**, 795 Lexington Ave

## Establishment:

- 42 **Dunkin Donuts**, 1132 Myrtle Ave
- 43 **Dunkin Donuts**, 573 Lafayette Ave
- 44 **MacDonald's**, 1275 Fulton St
- 45 **MacDonald's**, 1531 Fulton St
- 46 **MacDonald's**, 1883 Atlantic Ave
- 47 **Domino's Pizza**, 1479 Fulton St
- 48 **Brooklyn Stoops**, 748 Myrtle Ave
- 49 **Marcy & Myrtle Cafe**, 574 Marcy Ave
- 50 **Brooklyn Tap House**, 590 Myrtle Ave
- 51 **La Villa Cafe**, 505 Dekalb Ave
- 52 **Taste of Korea**, 232 Taaffe Pl
- 53 **Bedford Hill**, 343 Franklin Ave
- 54 **Kitten Espresso Bar**, 320 Franklin Ave
- 55 **Stonefruit Espresso + Kitchen**, 1058 Bedford Ave
- 56 **Pilar Cuban Eatary**, 397 Greene Ave
- 57 **Jo Juice & Salad Bar**, 1065 Bedford Ave
- 58 **The Civil Service Cafe**, 279 Nostrand Ave
- 59 **Nostrand Cafe**, 261 Nostrand Ave
- 60 **Alice Arbor**, 549 Classon Ave
- 61 **Daily Press Coffee**, 505 Franklin Ave
- 62 **Fuel Juice Bar**, 1183 Fulton St
- 63 **Corner Grind**, 1183 Bedford Ave

## Existing Wi-Fi access points Bed-Stuy

- Public
- Semi-Public
- Establishment
- Parks



- 64 **Bedford Hall**, 1177 Bedford Ave
- 65 **Angela's**, 417 Nostrand Ave
- 66 **Furman's Coffee**, 547 Nostrand Ave
- 67 **Strand Cafe**, 492 Nostrand Ave
- 68 **Playground Coffee**, 1114 Bedford Ave
- 69 **Colador Cafe**, 1000 Bedford Ave
- 70 **Baron's**, 564 Dekalb Ave
- 71 **ReConnect Cafe**, 139 Tompkins Ave
- 72 **Brooklyn Blend**, 194 Tompkins Ave
- 73 **Burly Coffee**, 356 Throop Ave
- 74 **Little Roy Coffee Co.**, 571 Greene Ave
- 75 **Crocus Juice Bar & Cafe**, 328 Tompkins Ave
- 76 **Tommy's Coffee**, 343 Tompkins Ave
- 77 **Brooklyn Kettle**, 420 Putnam Ave
- 78 **Nagle's Bagels**, 378 Tompkins Ave
- 79 **Cozy Coffee**, 925 Marcy Ave
- 80 **Sumner Cafe**, 144 Decatur St

- 81 **Juice Brooklyn**, 563 Throop Ave
- 82 **Bohaus**, 406 Marcus Garvey Blvd
- 83 **Kafe Louverture**, 392 Halsey St
- 84 **Saraghina**, 435 Halsey St
- 85 **Bar Lunático**, 486 Halsey St
- 86 **Georges-André Vintage Café**, 558 Halsey St
- 87 **Peaches**, 393 Lewis Ave
- 88 **Žabka Eastern European**, 616 Halsey St
- 89 **Natural Blend**, 243 Malcolm X Blvd
- 90 **The Trade Union Cafe**, 346 Malcolm X Blvd
- 91 **Manny's**, 212 Patchen Ave
- 92 **Kava Shteeble**, 94 Ralph Ave
- 93 **Chez Alex**, 72 Ralph Ave
- 94 **Milk & Pull**, 307 Malcolm X Blvd
- 95 **T Roc Homestyle Cooking**, 194 Ralph Ave
- 96 **Thee Seven Sister's**, 245 Ralph Ave
- 97 **Cup of Brooklyn**, 1071 Gates Ave



# EXISTING INTERNET ACCESS INITIATIVES

The intention of this section is to provide an oversight of already-existing initiatives happening throughout Bed-Stuy, aimed at closing the digital divide. Both the public and private sectors understand that internet service is essential to the city, to a neighborhood's competitiveness, and to civic life.

## LinkNYC

As part of the OneNYC initiative, the City committed to bringing every New Yorker affordable, high-speed internet access by 2025. In 2016 LinkNYC kiosks were installed on commercial streets. Each kiosk provides providing free high-speed Wi-Fi, free phone calls, free phone charging, and direct access to 911 and 311. This is an initiative of the New York City Department of Information Technology & Telecommunications (DoITT)

[In Bed-Stuy 18 kiosks installed, along Fulton Street \(between Classon Ave and Saratoga Ave\) and 3 along Nostrand Ave \(between Fulton St and Atlantic Ave\).](#)

## Free subway Wi-Fi

MTA Transit Wireless, is an initiative of the Metropolitan Transportation Authority (MTA) and New York City Transit Authority (NYCTA) to provide free Wi-Fi to New York City subway riders. Currently, all underground stations have Wi-Fi but no timeline has yet been released for the above ground stations.

[In Bed-Stuy all A-C, G and J-Z underground stations have free Wi-Fi. The only stations that do not are the three above ground stations on the J-Z line.](#)

## Free Wi-Fi on Buses

As part of the Metropolitan Transportation Authority (MTA) initiative to improvement of bus services, 2,000 new buses with Wi-Fi and USB charging ports will be added to its fleet in the next five years. By the end of 2017, all express buses (including existing buses) will be retrofitted with Wi-Fi and USB charging ports.

[By mid-October of this year, in Bed-Stuy, B43 will include Wi-Fi and USB charging ports.](#)

## NYCHA Initiatives

NYCHA has deployed several initiatives to support their residents who don't have the financial means to have internet access in their home.

[NYCHA Digital Kiosk \(Self-service Portal\):](#) 24/7 kiosks are located in each NYCHA development; residents can access NYCHA's online services and access the internet.

NYCHA deployed three [Digital Vans](#), a computer-lab on wheels that tours housing developments throughout the city to provide internet access to NYCHA residents. The vans rotates between developments in Brooklyn, [to view the schedule visit the monthly calendar:](#)

<http://www1.nyc.gov/site/nycha/residents/digital-van.page>

## Dept. of Parks and Recreation

NYC Parks has collaborated with several different internet services, to provide Wi-Fi to park visitors. The internet services are either provided by AT&T (with no limits) or by Altice USA and Spectrum (both with limits, allowing 3 free 10 minute sessions every 30 days or purchase a 99 cent day pass through midnight).

[In Bed-Stuy, Saratoga Park has limited free Wi-fi and Herbert Von King Park has no-limit free Wi-Fi](#)

## Department of Education

Career and Technical Education (CTE) courses provide adults with an opportunity to acquire technical, trade, construction, or entrepreneurial skills, including basic Computer Literacy and Microsoft Certifications. CTE classes are offered to adults without a high school diploma.

[Brooklyn Adult Learning Center - 475 Nostrand Avenue Brooklyn, NY 11216](#)

[Course calendar: http://schools.nyc.gov/community/AdultEd/classes/ProgramInfo](http://schools.nyc.gov/community/AdultEd/classes/ProgramInfo)

## NYC Connected Communities

To support high need communities throughout the city, DoITT NYC Connected Communities expands the availability of public computer centers and classes, in partnerships with other agencies the following initiatives are available in Bed-Stuy.

The NYCHA Community Computer Centers offer Internet access, computers and printing at select NYCHA locations across New York City that currently lack these resources.

In Bed-Stuy there are 5 NYCHA Community Computer Centers, review page 10-11 for the full list.

To increase access to training opportunities, the Department of Aging is collaborating with Older Adult Technology Services (OATS) to provide free computer classes and use of computers to their members.

In Bed-Stuy, there are three OATS Labs:

- Quincy Senior Residence: 625 Quincy Street, Brooklyn, NY, 11221
- Wayside Tompkins Park Senior Center: 550 Greene Avenue, Brooklyn, NY, 11216
- Ft. Greene Stuyvesant Heights Senior Center: 69 McDonough Street, Brooklyn, NY, 11216

NYC Parks Department provides basic computer classes for adults and seniors including instruction in topics like web browsing, Internet security, resume writing and web design. All classes are free to Parks Department Recreation Center members.

In Bed-Stuy, there are classes held at the Herbert Von King Cultural Arts Center, 670 Lafayette Avenue Brooklyn, NY 11216

Check out the schedule: <https://www.nycgovparks.org/facilities/recreationcenters/B088/schedule#CRC>

## Brooklyn Public Library

The library has many different programs related to BklynConnect. The following is a sample of those that touch on digital literacy and access to broadband that are currently planned in Bed-Stuy. For details and an updated list - <https://goo.gl/ppjo9U>

### Bedford Branch Programing

Adult

- Ask a Tech

Young Adults and Teens

- Teen Tech Time

Kids

- Kids Tech Time

### Macon Avenue Branch Programing:

Adult

- Email Basics
- Computer Basics; Improve Your Typing Skills, Google maps and hangouts

Seniors

- Email Basics
- Computer Basics
- Mac Book

Young Adults and Teens

- Teen tech time (gaming)
- Bloxels: Design video games

Juvenile

- Kids Tech Time - apple edition

All ages

- Internet Safety and security

# WHO USES THE LIBRARY INTERNET SERVICES?

A little over two-fifths of Bed-Stuy households currently don't have broadband access in the home, leading them to look elsewhere for their access needs. For many, the local branch libraries are that resource. In the last year, there were an average of 839 sessions per computer/year across all of the three Bed-Stuy branches. Even though not all individuals without internet use the branches, those who do provide a snapshot of the typical use of public Wi-Fi and the community's digital access and literacy needs.

## Bed-Stuy Library Wi-Fi and Computer use<sup>36</sup>

15,210	Wi-Fi Sessions at the Bed-Stuy branches
103,172	PC sessions at the Bed-Stuy branches
68%	of computer users in Bed-Stuy branches are adults

## What are neighborhood patrons using the computers for?

To build a better understanding of neighborhood use of public Wi-Fi services, we asked library staff in a survey to share how they see patrons using the library computers. We combined that information with the insights of participating student BklynConnect fellows, who observed 31 adults in 3 branches in Bed-Stuy using the computer for a few hours. Initially we had heard many assume that patrons mostly use computers for job search or filling out government forms, however according to their observation most patrons were using the computers for general browsing (53%), e-mail (23%), and social media (18%). Adults were also using the computers for music and videos (18%) and Word or Excel (18%). It is clear that for many patrons, the computer as a resource is not only for accessing services but also for enjoyment.

## Did the neighborhood patrons display any digital literacy challenges?

As part of both the library staff survey and fellow observations, patrons displayed a variety of comfort levels. Many were comfortable with the computer, technology and were even seen coding, while others expressed a low level of digital literacy, personal anxiety, impatience, and even unwillingness to learn something new.

Of the patrons observed, 41% were seen pecking (using one finger to type), 17% had general discomfort with the mouse, and 9% asked for help. At the Bed-Stuy branches library staff provided help with printing, technical computer issues such as sticky keys, creating a resume, and more internet-related challenges such as uploading and downloading documents in e-mail. The absolute largest challenges expressed by the library staff were resetting passwords and general patron frustration with waiting for their turn to secure computer space and time. Library staff expressed the following:

[Patrons] want it now. They don't understand why they have to have a library card to use the computer or to print.

Many patrons are computer illiterate and need lots of help and if they are not then they are unfamiliar with the basic functions of modern computers.

We do have a time limit on assisting them on the computer, because there are other patrons that also need our assistance.

Technology doesn't always work.

<sup>36</sup> Brooklyn Public Library



How comfortable were neighborhood patrons using Wi-Fi in a public place?

A key aspect of providing free Wi-Fi services is to do it in a way that ensures that individuals are comfortable using it. As the library is a very public place, we were interested to see what privacy concerns or behaviors might be present. BPL fellows found that 43% of the observed patrons (155) showed privacy-seeking behavior such as wearing headphones, covering the screen with their hands or a cover, constantly checking over their shoulder, or turning the screen away.

Existing available computers in Bed-Stuy Branches

Bedford 10 20

Macon 34 22

Marcy 19 20

Laptops Desktops

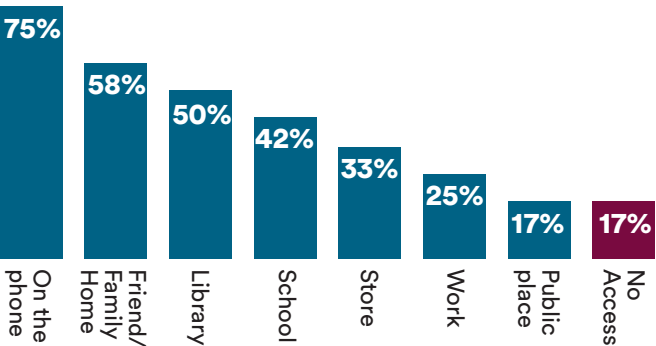


CASE STUDY: MIFI HOTSPOT

In the school year 2016-2017 Brooklyn Public Library lent out 1500 portable Wi-Fi hotspots to patrons, informally called a MIFI device. The goal of this project was to provide students with an entire school year of free internet access. For a household to be eligible for the programs they had to lack internet access, have a child that attends NYC public school, be over 18 years old and hold a valid library card.

The Macon branch was part of the pilot. The data collected by 13 participating neighborhood patrons provides some insights into the internet access needs of low income families with school age children.

Before the hotspot, where do the kids access the internet?



Source: Brooklyn Public Library

The following data is from the Bed-Stuy households who filled out the exit survey:

73% did not have Wi-Fi access at home over the last three years

92% of participants finished high school or higher education

83% of the participants were women

33% of the participants were from low income households

The MIFI program ran in collaboration with the New York Public Library and the Queens Public Library and was the largest program in the US. The following data is derived from the exit survey filled out by participants across all three boroughs. The relevance in this data lays in the similarity of the target audience for BklynConnect.

60% of all participants indicated that they don't have Wi-Fi at home due its to high cost

58% of all participants indicated that have a cellphone with a data plan

42% of participants finished high school or higher education

# WHAT WE HEARD IN BEDFORD STUYVESANT

To ensure we are gathering neighborhood input as part of this need assessment, we held a workshop conversation on the 19th of July with a group of community-based organizations, service providers, local computer trainers, local branch librarians, and key neighborhood stakeholders. We started the afternoon by discussing how additional public Wi-Fi could be of benefit to the neighborhood and their organizations, used a series of scenarios accompanied by a map to gain understanding of consideration regarding additional Public Wi-Fi. Hundreds of insights were collected.

We were specifically interested in how free public internet access could impact their services, organization and how it might affect neighborhood residents. Many felt that ‘almost everything is online today’ from housing to school information to job listings. The fact that nearly all city services require online forms means that for someone without access to the internet there is a barrier to those benefits, leaving those residents stuck on the wrong side of the door to opportunity.

Overall, it was clear that all community stakeholders felt that access to free internet would not only play a major role in supporting residents’ everyday life but also support more equitable access to services and resources, and support building personal relationships.

The key benefits of providing free Wi-Fi services expressed by Bed-Stuy community stakeholders include:

- Providing residents access to online services, forms and resources
- Offering an educational resource for children and youth
- Creating a tool for information sharing by local organizations and accessing by the residents
- Reducing the economic burden of residents to access a reliable internet services

It would make a positive impact on the lives of residents because that will be able to have 24 hour access to do recreational and academic work.

- local branch library staff

Community stakeholders also expressed that the opportunity to link residents to information was one of the largest benefits to providing free Wi-Fi in the neighborhood. When asked what type of information could be most beneficial, the following were suggested as most needed based on their first-hand experiences with Bed-Stuy residents:

- Calendar of local community events, and free classes
- Directory of local, youth and senior services
- Direct access to NYC government forms (Housing, Tax, Immigration...)
- Educational opportunities for adults including continuing education and job training
- Local and NYC-based job listing

The addition of free internet access would greatly benefit our constituents because they may only have access to technology in schools, the library and not at home. Access to free internet could help economic development, academic achievement and access to additional opportunities.

- Community Based Organizations

Free internet access could improve our organization’s communication with constituents. Residents come in to use the computer lab for resume building could possibly decrease this initial contact/clients that we touch or use this as an entry to providing additional services

- Local workforce development staff

Create social hubs. Give more people access to information and services.

-Staff of the local city council office

Neighborhood residents will be exposed to more information and communications about existing and upcoming services. Affordability is an issue so this would be a solution.

- Local workforce development staff

Where would additional public Wi-Fi be most beneficial? There are many different opportunities to consider. As part of the Need Assessment process, BPL presented a series of scenarios to workshop attendees from the neighborhood to gather insight about not only potential locations for the pilot technology but also its feasibility, benefits and concerns.

The effort to provide free internet connectivity to those who frequent or live in the neighborhood holds different approaches that might address different audiences, evoke different issues or trigger different types of Wi-Fi use. The following provides an overview of the findings.

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### Commercial corridors

*Free Wi-Fi along a neighborhood's both heavily trafficked and less trafficked corridors.*



**Target Audience:** Broad. This could benefit shoppers, commuters, businesses, Business Improvement Districts (BID) and residents living along or in proximity of the corridor

**Examples of use:** Searching shopping coupons, getting directions, checking bank accounts before purchases and surfing the web. The service would be most beneficial in terms of reducing the burden of an individual data plan.

**Benefits:** Attract more individuals to the corridor which will have a positive impact on local business owners.

**Concerns:** Might increase loitering; might be difficult to promote due to competition of already existing Wi-Fi networks.

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### Public Plazas or outside Community Centers

*Free Wi-Fi surrounding a public plaza (potentially along a commercial corridor) or an existing community center.*



**Target Audience:** Broad. Residents living close, co-located service providers and shoppers that are taking a break.

**Examples of use:** This might be beneficial to individuals for receiving services, accessing online resources and surfing the web.

**Benefits:** This could have a positive economic impact for co-located services providers or surrounding businesses, foot traffic higher than other areas and individuals typically spend more time in a plaza.

**Concerns:** Public Wi-Fi might increase the plaza's popularity and therefore its safety concerns and could require an increase in security or staffing; Individuals who are not affiliated with a community center might be less inclined to use the plaza and the service.

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### Public Parks

*Free Wi-Fi located inside or along a public park or community garden.*



**Target Audience:** Broad. All daytime park visitors. Families, kids, teens and residents living along the park edge.

**Examples of use:** This service may support students working on their homework, parent's multi-tasking online while being in the park with family and reducing the burden of an individual data plan.

**Benefits:** This could leverage existing resources such as community programming, enabling organizations to host meetings in the park; It could promote being outdoors and potentially lessen the congregation of kids and teens on street corners.

**Concerns:** Weather conditions and opening times might limit the audience; Kids might trade playtime for screen time; Safety.



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## Residential Areas

Free Wi-Fi located along a residential block or outside of a NYCHA housing development.



**Target Audience:** Smaller, as it would most directly benefit residents living on that block.

**Examples of use:** This service may support students working on their homework, reducing the burden of an individual data plan and providing access to those who do not have data plans.

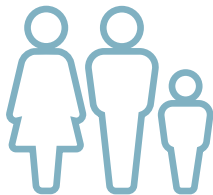
**Benefits:** The service could reach a high-need audience that could potentially free services more heavily based on economic circumstances (quality vs quantity).

**Concerns:** Exclusion of an audience as residents who do not live on the block might not easily get to use the service; there might be an increase in loitering due to lack of seating. Higher density use might limit Wi-Fi speed.

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## Family Shelters

Free Wi-Fi located outside of a family shelter or near transitional housing.



**Target Audience:** Smaller. Residents living in these shelters as well as service providers supporting these families.

**Examples of use:** This service may support students working on their homework, reducing the burden on data plan, providing access to those who do not have data plans and be a resource for organizations providing services to marginalized populations.

**Benefits:** The service targets a high need population that could use it after shelter computer labs close; local service providers could use the Wi-Fi for tabling or programming.

**Concerns:** Might cause some loitering because of lack of outdoor seating. Some shelters have a curfew which would limit the use of the service.

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## Food Pantries and Soup Kitchens

Free Wi-Fi located outside of a food pantry or soup kitchen.



**Target Audience:** Smaller. Benefits residents receiving support at these locations, residents that live close and could serve as a resource for organizations providing services to residents.

**Examples of use:** Support reducing the burden on data plan, providing access to those who do not have data plans.

**Benefits:** Potentially easier to promote, since foot traffic and queues for services are higher than other areas; less concern with loitering because people are already there; potential for local services to use for programming.

**Concerns:** No outside seating; limited opening times might limit the time frame for the service.

We talk with court involved young people who come through our program about the digital divide and try to provide resources to them to help them apply for jobs and attempt to close the divide. This could be a resource.

- Local youth based community organization

My students live in the neighborhood and know they would benefit from free internet to complete homework, do research and job searches.

- Local school parent representative

## Key considerations we heard about Wi-Fi coming to the neighborhood.

Although community stakeholders expressed many potential benefits to bringing Wi-Fi to the neighborhood there were several concerns and questions were expressed as well. The following are the syntheses highlights:

**Target Audience:** When considering a location, be conscious about who these services are trying to reach and benefit. Not all locations are equally attended, accessible or open to the public, and not all audiences, including many elderly residents, are as mobile.

**Impacts on the Surroundings:** How does adding Wi-Fi impact its surroundings? Could it negatively impact business or attract larger crowds?

**Time Constraints:** Many places have limitations in terms of time such as a curfew or closing time. Is there value to turning the Wi-Fi on and off?

**Technology:** When considering the type of Wi-Fi, are there benefits of a service that doesn't penetrate walls? How large of a footprint is impactful? What is the benefit of the addition of free Wi-Fi when someone doesn't own the devices?

**Safety and Security:** The additional high priced devices out in public and the addition of individuals outside loitering and later in the evening sparked concerns about safety, security and the need for increased police patrol.

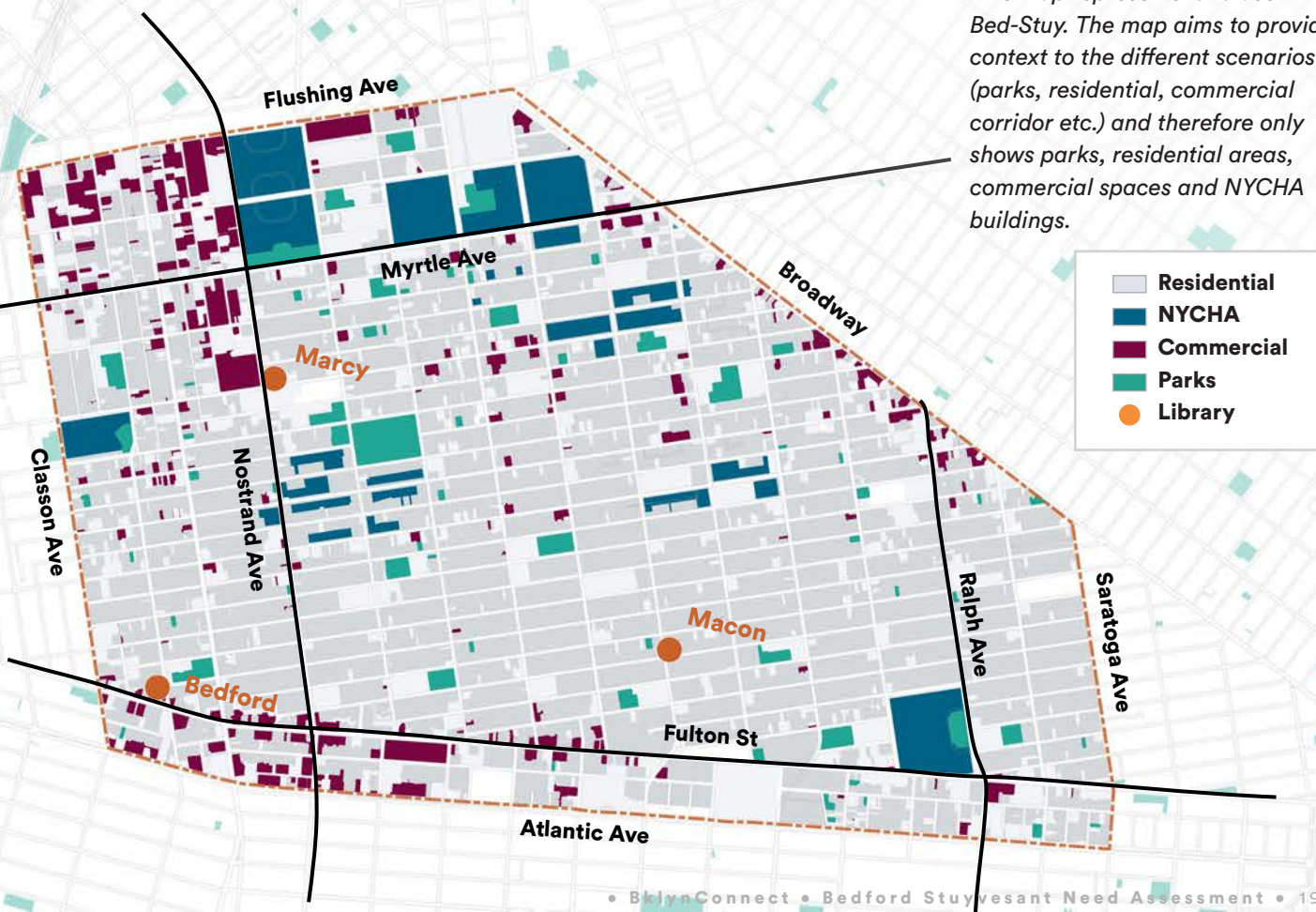
**Physical Environment:** If the aim is to support individuals working on laptops, such as students, be conscious if the location chosen has the appropriate seating or tables and/or is appropriately covered to support any weather conditions.

**Digital Literacy and Educational Support:** Not all residents might know how to use the service. How can we educate the community on how to use it? Is this an opportunity to educate and support individuals with co-located knowledge training in a surrounding space?

**Usability:** People choose to connect to Wi-Fi based on several factors. It is important to consider if the connection is secure, what the speed of the connection is and if there is a time limit to using it, this will widely affect its usability.

## Land Use in Bed-Stuy

*This map represents land use in Bed-Stuy. The map aims to provide context to the different scenarios (parks, residential, commercial corridor etc.) and therefore only shows parks, residential areas, commercial spaces and NYCHA buildings.*





## ACKNOWLEDGMENTS

Our work on this project was only possible because of the thoughtful participation of dozen of Brooklyn Public Library staff members, front-line services providers, community based organizations and neighborhood residents. To respect neighborhood residents participants' privacy, we include their contributions anonymously.

### Brooklyn Public Library Staff

Brownsville Library  
Central Library  
Cypress Hill Library  
East Flatbush Library  
East New York Library  
New Lots Library and Learning Center  
Macon Library  
Saratoga Library  
Stone Avenue Library

### Neighborhood Participants

All For One: Empowering Neighbors  
Advanced Technology Training and Information  
Networking (ATTAIN) at SUNY  
Bangladeshi American Community Development  
& Youth Service  
Bedford Stuyvesant Family Health Center  
Bed-Stuy Community Connections Partners  
Bed-Stuy Restoration Center  
Brooklyn Fathership Partnership  
Brownsville Partnership /Community Solutions  
Camba - Flagstone Family Center  
Community Board 03  
Community Board 05  
Community Board 16  
Community Education Council 19  
Community Healthcare Network  
ConnectNYC  
DIVAS for social justice

### BklynConnect Fellows

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Reeba Toby

Exalt  
Brownsville Heritage House  
Hope Computer Training  
Made in Brownsville  
M.S. 267 Math Science & Technology Institute  
Navigate the Maze  
NY Psychotherapy and Counseling Center  
NYC Department of Social Services  
NYC Mayor's Office of Tech and Innovation  
Office of Council Member Inez Barron  
Office of Council Member Robert E Cornegy Jr  
Power of Two  
Rose McCarthy Shelter  
SCO Family of Service s/ Family dynamics  
Services for the Underserved  
United Community Center (UCC)  
Warwick St - Unified Block Association  
Women In Need



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