

BKLYNCONNECT PLAYBOOK

A RESOURCE FOR RESEARCHING,
DESIGNING AND IMPLEMENTING
A PUBLIC WiFi PILOT PROGRAM
IN YOUR NEIGHBORHOOD



PROJECT CREDITS

BklynConnect documents a project undertaken by 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.

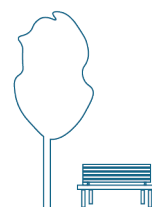
Playbook prepared and designed by: TYTHEdesign



BKLYNCONNECT PLAYBOOK

CONTENTS

4	BklynConnect	30	Phase 3: Decision Making & Planning
6	The Approach	32	Choosing Public WiFi Locations
12	Phase 1: Internal Assessment & Research Criteria	34	How to Include Digital Literacy & Education Resources in Your Pilot
14	Internal Assessment	36	How to Determine the Technology for Your Pilot
18	How to Include a Fellowship into the Entire Process		
20	Phase 2: Internal Assessment & Research Criteria	38	Phase 4: Implementation & Evaluation
22	Accessing & Understanding Existing Data	39	Evaluation of the Pilot
23	Surveys	43	Appendix
24	Interviews		
25	Planning & Leading a Community Workshop	52	Sources
28	Engaging With, Before, During & After	53	Acknowledgments



BKLYNCONNECT

Life is becoming increasingly digital. We used to access the Internet primarily for email or browsing. Now it has become an important component of everyday life. Fundamental tasks such as applying for government benefits, accessing education, and applying to jobs are now done almost exclusively online, making access to WiFi a necessity. Brooklyn Public Library (BPL) is committed to serving a diverse community in Brooklyn and to addressing their needs in a time when technological innovations are drastically changing our day-to-day. To cater to these evolving needs, BPL is continually exploring new models for engaging with patrons.

The overall purpose of BklynConnect was to implement a small-scale WiFi network outside the four walls of the library as a response to the community's diverse and changing digital equity, career development, and early literacy needs. BPL's role is to serve every Brooklyn resident, including older adults and linguistically isolated immigrants typically excluded by technology projects like this one. Through BklynConnect, we collectively uncovered neighborhood broadband needs; identified the opportunities for new programming/services that support education, digital literacy, and inclusion; collaborated with local students as fellows; and created a playbook to share strategies to replicate this process in other neighborhoods.



WHY A PLAYBOOK?

This playbook is a collaborative effort of BPL and TYTHEdesign. Our intention with this document is:

- To provide a resource and a process for organizations interested in exploring and/or implementing a free public WiFi pilot in their neighborhood
- To provide actionable tools for supporting community research
- To share insights, offer lessons, and bring transparency to the process BPL undertook for the BklynConnect pilot

This playbook is designed for organizations (including libraries, city officials, and community-based organizations) to enhance their capacity to plan and implement similar pilots. You may want to dive right in and read this playbook from cover to cover, using each section as a stepping-stone along the path to your pilot. Or you might zero in on an individual section that helps you identify a specific need. Either way, you will walk away with new strategies for piloting digital access projects and engaging the people who matter most.

WHY A LIBRARY?

Brooklyn Public Library, like other library systems, has a fundamental purpose to make knowledge and information equitable and accessible to all. In our digital age, this no longer simply means providing access to books and printed resources, but also ensuring that every resident has access to the Internet. While the Internet has enabled vast amounts of information to be globally accessible, that access is not distributed equally around the world or even around Brooklyn. In much the same way the library adapts to serve the different linguistic and informational needs of residents, BPL also seeks to fill in Internet access gaps and to expand training in new technologies.

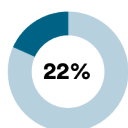
As an anchor institution of Brooklyn, BPL is well positioned to extend its role as a key community connector and convener, and to form partnerships with and among government and nonprofit institutions, small businesses, community groups, schools, and residents. Through these partnerships, library systems of all sizes can better respond to their communities' digital needs.



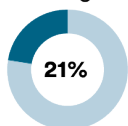
HOUSEHOLDS WITHOUT INTERNET ACCESS

The share of households without access to Internet in the biggest cities in the United States (by population) averages at 25%.⁶

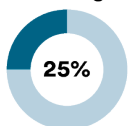
New York City



Los Angeles



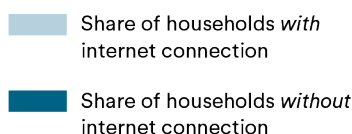
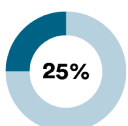
Chicago



Houston



Phoenix



INTERNET ACCESS ACROSS THE US

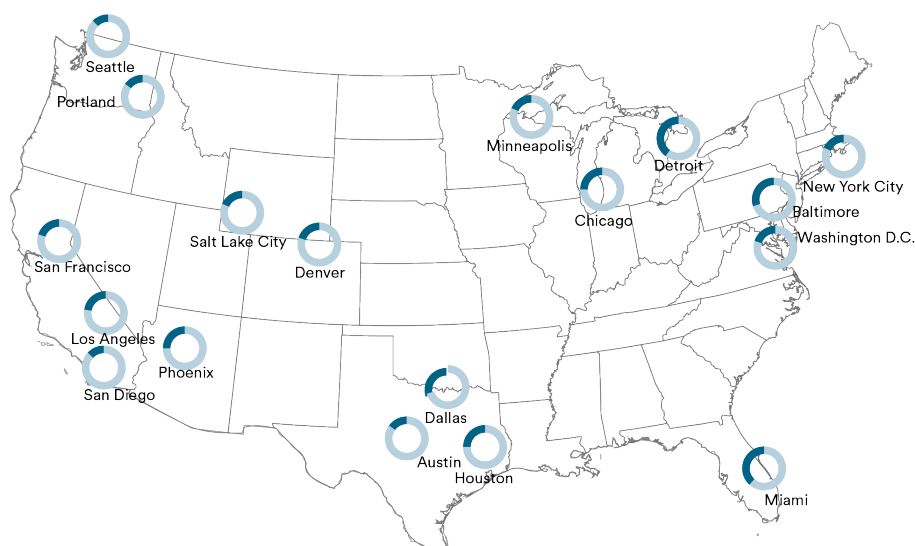
Checking your email, going on Facebook, searching for job listings, sending in applications, playing a game, seeing the latest music videos, filing taxes, applying for housing, e-government in general, looking up directions, and simply surfing the Internet — these are just a few of the countless reasons to go online. Access to WiFi, 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%.¹** While 76% of households in Brooklyn had home broadband access in 2014,² many families still struggle with low-quality service cutoffs, or old technology.³

Approximately 33% of Americans lack broadband access at home. 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 and WiFi connection, but they do have a data plan. This can be challenging due to data ceilings or limited usability of their devices.⁴ So where can they go to find WiFi elsewhere? Some people go to local community centers; others go to the library or find a local café with WiFi. According to Mayor Bill de Blasio, every New Yorker should live within an eighth of a mile to a place that provides free public WiFi.⁵

There are a variety of initiatives to improve broadband access in the US on different scales initiated by different actors, including mobile WiFi vans, free portable hotspots, local community centers, workforce development centers.

INTERNET ACCESS IN MAJOR US CITIES⁷



Throughout our process, we encountered many different terms, some more clear than others. Let's clarify some digital definitions so we are on the same page for the remainder of this playbook.

Broadband Access: This term refers to having high-speed Internet in the home — 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 WiFi network. But broadband does not include WiFi through phone connection.

Digital Divide: This refers to the divide between people who have access and people who don't have access to broadband. Oftentimes it is the already vulnerable populations that lack access to broadband, such as lower-income populations or homeless populations.⁸

Digital Literacy: Not everyone is confident with technology. Digital literacy refers not only to the ability to connect to the Internet but also to the skills, knowledge, and familiarity to use the technology (Internet and computer) to achieve their goals. Populations that are vulnerable to digital illiteracy include older adult populations and low-income households.⁹ To take it one step further, Pew (2017) refers to “digital readiness” as the ability to use digital resources for learning purposes, such as adult education.¹⁰

Digital Inclusion: This refers to the activities and strategies that help vulnerable populations have access to 1) affordable broadband services, 2) devices that are able to connect to the Internet, 3) digital literacy training, and 4) quality technical support and content and services designed to enable and encourage self-sufficiency.¹¹

Digital Equity: This refers to the condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital equity is not only necessary for civic and cultural participation, but it is also crucial for family well-being, as it allows them to apply for jobs, sign up for healthcare, and access poverty alleviation programs.¹²

THE APPROACH

HOW: STEPS TO BUILDING A SMALL-SCALE FREE WIFI PILOT

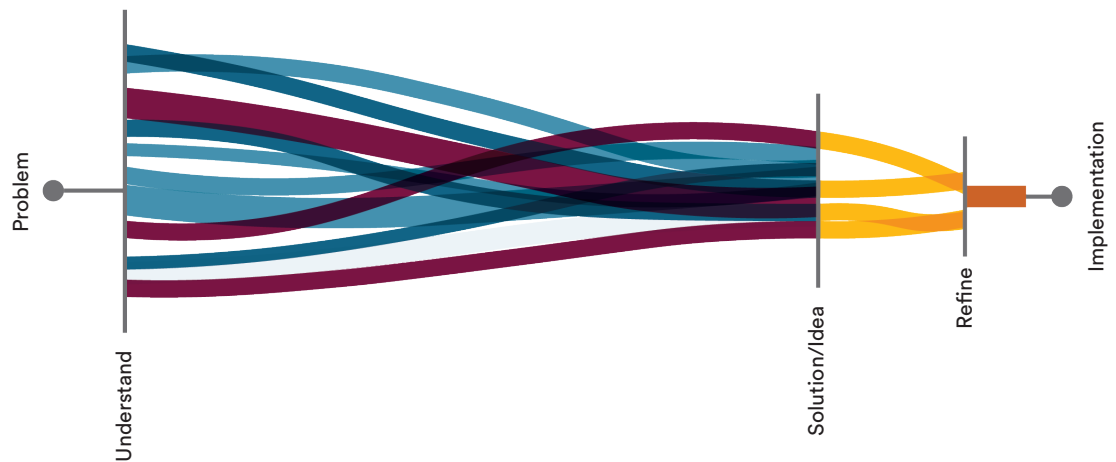
When undertaking a small-scale pilot project, no matter the location and context, it is important to lay out your process and approach. After all, some steps in this endeavor, such as planning community engagements or distributing surveys, take time to plan. The value of having a formalized approach is not only to keep yourself on task, but also to help align responsibilities and processes with collaborators.

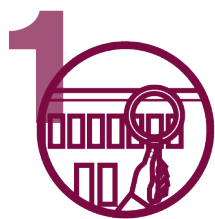
This playbook is organized as a four-phase planning process, which is based on a common problem-solving methodology and human-centered design used by designers, planners, and managers to identify problems and create informed solutions. Each section of this playbook is a standalone tool — meaning, you can choose to work linearly, building one phase at a time, or jump in at whatever stage you want.

TRADITIONAL DESIGN PROCESS



HUMAN CENTERED DESIGN PROCESS





Phase 1: Internal Assessment and Research Criteria

Before starting any pilot, it is important to ask critical questions of your organization and to clarify your goals. What is your pilot going to look like? Who will be your target audience for the WiFi? What is your time frame? What is the capacity of your organization and who will you collaborate with? It is then important to specify what you need to know to successfully implement your pilot and gather this information through using your research criteria.

This section of the playbook will provide tools for doing an internal assessment, a set of recommendations for how to build your pilot's research criteria, and instructions on how to leverage the knowledge of local students to support the pilot. (Pages 12 to 19)



Phase 2: Community Needs Assessment and Mapping

Once you have looked internally, the next phase is to understand the existing services/ support in the neighborhood, gather important historical and contextual information, and gain perspective on the key stakeholders. A community-based needs assessment will help you uncover key challenges, needs, and gaps, as well as to find new opportunities for new programs or services. During this phase, there are different components you will have to consider, the most important of which is to identify how you will engage with and learn from your community.

In this section, the playbook will provide a set of resources, tools, and strategies for planning and collecting community insights through a needs assessment. (Pages 20 to 28)



Phase 3: Decision-Making and Planning

Collecting insights from your community members can take different forms, depending on the type of research you conduct and which parties you are working with. During this phase, you should organize your findings with the aim of being transparent and making crucial decisions for implementation. These decisions include determining the appropriate technology, the pilot location(s), and your target audience, as well as identifying any additional partners or opportunities with existing programs for the implementation phase.

In this section, the playbook will provide insights uncovered during the BklynConnect pilot and resources to support your decision-making. (Pages 30 to 37)



Phase 4: Implementation and Evaluation

Once you have reached the implementation stage of your pilot, a whole new set of questions needs to be addressed. What happens when the technology is implemented, how will you do outreach, and who is responsible for what? How do you measure when the pilot is a success? How are you documenting the pilot? How can you share your experience so that other stakeholders or interested parties can build on your experience?

In this section, the playbook will provide insights from BklynConnect and a set of key questions to consider when addressing these questions and supporting a long-lasting pilot. (Pages 38 to 41)



SO WHAT'S THE VALUE OF A HUMAN-CENTERED DESIGN APPROACH?

A human-centered design approach places an emphasis on understanding the root cause of the real-world problems that community members face and attempts to collaboratively seek and create relevant solutions. This isn't about visual design; it's about applying the principles of design as a form of problem solving.

One important aspect of a human-centered approach is that **you design the pilot with the community, not for them**. It is a way of putting your assumptions out there, to discuss them with the community, instead of pretending that they don't exist. Not only can this process foster community relationships, but it will also increase the likelihood of success because you include the insights of the people that will use the pilot technology in the end. Throughout this process, co-creation is at the center of each phase and it works well because it is inclusive, accessible, and designed to encourage participating teams and community members to think creatively and draw upon the knowledge and experience of their peers in imagining creative lasting solutions.

Human-centered design is, at its root, a practice of empathy. It recognizes the value of people coming together from a variety of view points to build solutions informed by multiple perspectives and life experiences. In turn, this makes human-centered outcomes more sustainable and scalable because they are based in true, diverse and complex human experiences.

Human-centered design has been used to tackle problems from a number of fields including health, public policy, education, environment and more. If you want to learn more about human-centered design, check out these resources:

IDEO has coined the term “human-centered design,” and has published a free guide for a basic understanding: designkit.org

Stanford University's **d.school** provides a wide range of resources regarding design methodologies and online courses: dschool.stanford.edu/resources-collections/browse-all-resources

Additional resources can be found on page 52.



To ensure that the pilot research was beneficial not only to the project but also to the community and our internal organization, we started the first phase by conducting an internal organizational assessment and a collaborative working session with 20+ local branch library staff members to align around the pilot goals and to establish our research criteria.

In the last two phases, we aimed to present our findings in a way that was accessible to neighborhood organizations, local service providers, local library branches, and all other interested parties, ensuring that the neighborhood needs assessment was valuable outside of the pilot project.

By using a human-centered approach for BklynConnect, we learned from the community engagement sessions that there was a high need for broadband access in the homeless community and challenged our initial assumptions about what type of WiFi delivery technology would best serve the community's needs.



INTERNAL ASSESSMENT & RESEARCH CRITERIA

START BY LOOKING INWARDS:

HOW TO IDENTIFY YOUR ORGANIZATION'S INTENTION

Framing your intention, assessing the existing resources, and determining potential internal needs is as important as determining the scope of your pilot. It can prevent your team from running into barriers regarding budget deficits, time management, team capacity, and partner responsibilities, among other issues.

Your intention defines what you, as an organization, aim to achieve through the collaborative process of implementing the WiFi pilot. It consists of both goals and outcomes and allows for flexibility in case of change over time due to unforeseen events.

We define **goals** as the ideas and experiences you hope to accomplish; they might be abstract and difficult to measure immediately. For example, a pilot such as this could look to create broadband access for a large group of community members and create new partnerships.

Outputs are defined as more specific and tangible outcomes you hope to accomplish once your pilot is implemented. They might include new insights you gained about the neighborhood through participants' perceptions or creating a specified amount of WiFi technology on the ground.

A key component of realistically framing your intention is to assess your internal existing resources and your potential needs. Examine the time, effort, and human resources that are available from your various stakeholders and partners, including staff, volunteers, consultants, and community members.

When looking at your internal capacity, the first step is to decide if your organization is able to “go solo” and carry the entire responsibility for completing the community assessment and implementing the pilot, or if you would like to work with community partners and make it a collaborative project. Potential community partners include nonprofit organizations, local businesses, local community organizations, foundations that provide grants to your community, universities, and government entities.

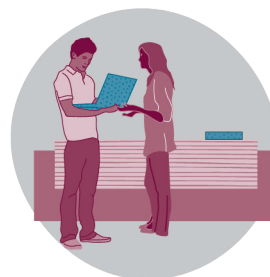
On the pages 14-15, you will find a questionnaire that can function as a starting place for your internal assessment.



LEVERAGING YOUR LOCAL LIBRARY

Recognize the knowledge and capacity people in and around the library already have. Here are some ways that you might involve different members of the community in the research, design, and development process:

- **Local librarians** have insight into how residents in their neighborhood currently access and use media and technology, as well as how to find information.
- **Technology experts**, called Technology Resource Specialists at BPL, serve, are familiar with, and often come from the local community around the library. Use a community-driven wireless project as an opportunity to train the trainers.
- Libraries often have a community of **volunteers**, many of whom are interested in technology, and all of whom have something to share. **Younger patrons** often have expertise and interest in new platforms and technologies that differ from their older counterparts. It is important to recognize and support the knowledge and interests young patrons already have regarding technology. **Older patrons, program attendees, and neighbors** also bring unique knowledge, both about technology and about community assets and needs. They have an understanding of how different people currently access the Internet and technology training.
- Local library branches and community organizations may have **physical community spaces** that can be used for meetings and events.
 - Face-to-face interaction with and among community members is key to building truly “community-driven” wireless access. Encourage broad community participation in the planning, decision-making, and building process through in-person events.
 - Libraries function as **safe, trusted spaces** where parents are often comfortable leaving their children. Engage youth as frequently and as meaningfully as possible in the process in order to foster an intergenerational learning experience.
 - Local library branches are **hubs of information on local community** events and typically have tables of flyers and signage about neighborhood happenings. Disseminate information and resources on the new wireless network and/or training program through these hubs.



INTERNAL ASSESSMENT

INTERNAL REFLECTION

Determine how your mission and motivations connect to this pilot.

- What are your organizational motivations to focus on providing free WiFi for the neighborhood?
- Does providing free WiFi support your existing work and services? How?
- How does free WiFi align with your organization's mission/vision?

TEAM CAPACITY

Determine the capacity of your team and how they can support the pilot.

- What specific roles exist in your team? Who will be supporting this pilot? What are the strengths, knowledge, and capacity of each team member?
- What knowledge might your team be missing regarding this project, selection of partners, or community? Where do you have gaps in your capacity?
- Are there any existing structures or processes that you have followed for similar projects? Is it clear how decisions are made?

TIME FRAME

Determine the time frame your organization has available for this pilot.

- What does your timeline look like for building out this pilot? How many hours, weeks, months do you have to focus on this pilot?
- Are there any events you want to coordinate with? For example, can you launch the program during a major community technology festival?
- Do you have any flexibility in this timeline? What else is happening during this timeline (including external projects you are involved in)?

RESOURCES

Determine the resources that you have in-house and what kind of logistics you foresee in this pilot.

- What internal resources does your organization have access to (think about knowledge, experience, physical space, printing, technology, etc.)
- What is your budget for this pilot? If you haven't identified a budget yet, what costs (line items) will be included in this pilot? Do you foresee any additional budget in the future?
- How do you anticipate covering the budget for this pilot? Do you need to apply for grants?

EXISTING NEIGHBORHOOD RELATIONS

Determine whether there are any potential partners to collaborate with for any part of the process.

- What are your current relationships in the neighborhood and how could you leverage these? List the potential organizations you could work with, your relationship with them, and how they might want to be involved in this pilot.
- Who else in the neighborhood do you want to engage with?

GOALS AND OUTCOMES

Determine the goals of your pilot and process and what happens/your involvement once the pilot is implemented.

- What do you hope to achieve at the end of your project in broad terms?
- What specific, tangible information and artifacts do you hope to accomplish once your pilot project is implemented? (e.g., number of people that will have WiFi, length of the pilot, amount of workshop participants, and information gathered).
- What are your goals for the future use of the pilot?
- What is your role after implementation? Do you anticipate managing the WiFi technology long-term?
- Do you anticipate other stakeholders supporting long term implementation, to act as a steward?

Consider which Internal Assessment questions are key for you to answer and record your reflections here:

INTERNAL REFLECTION

RESOURCES

TEAM CAPACITY

EXISTING NEIGHBORHOOD RELATIONS

TIME FRAME

GOALS AND OUTCOMES



TIPS & TRICKS

Preventing Biases, Assumptions & Stereotypes

It is important to be aware of your personal biases when you are doing research. Do you have any preconceived ideas about the neighborhood and community and their perceived needs? For example, you might encounter the preconceived bias that someone who doesn't have a computer won't know how to use one. That might not be the case. Just be aware. Everybody has assumptions and biases, don't brush them under the rug and do your best to not let them influence your research. Bringing in some expertise from the community can help you identify them.



LESSONS FROM BKLYNCONNECT

In the case of BklynConnect, we developed our research criteria collaboratively by having a working session with library branch staff and community stakeholders. The goal of the BklynConnect research was to 1) understand neighborhood context, data, and behavior in relation to existing WiFi, 2) to provide a relevant overview of the state of broadband access, and 3) to analyze and compare insights to inform their selection of a pilot neighborhood. BPL was selecting between three Brooklyn neighborhoods: Bedford Stuyvesant (Bed-Stuy), East New York, and Brownsville.

The research was subject to a couple of limitations. First, we worked within a short time frame, which limits the breadth of the research. We only had two months and a minimal budget to collect insights on three neighborhoods. Secondly, we predominantly connected with community members that had already interacted with BPL, which leads to pre-existing positive bias or buy-in and fewer counter insights.

If we hadn't been as limited by the timeline, we would have spent more time connecting directly and building relationships with more of the several hundred community-based organizations. Even though we were able to locate them as resources in our research, we were not able to fully determine their interest and capacity in participating and supporting the pilot.

Building research criteria can be a challenge since there are many different questions you can ask, but your organizational resources (time, budget, etc.) might limit your scope. A good starting place can be to review and adapt the criteria developed for BklynConnect on the following page. To help with your organizational capacity, we have included some key questions we believe are "must knows" vs. questions that are "nice to know." In other words, what should you prioritize in order to conduct insightful research if your time or resources are limited?

BklynConnect's Research Criteria

KEY CATEGORIES	KEY QUESTIONS	BKLYNCONNECT METHODS	MUST KNOW OR NICE TO KNOW?
Assessing Neighborhood Demand For Free WiFi	Personal access to the Internet: <ul style="list-style-type: none"> What percentage of people have access at home in the neighborhood? What are the age, geographic location, education, ethnicity, and income distribution of people who don't have access? 	Surveys, existing data, secondary research	Must
	Existing WiFi access points in neighborhood <ul style="list-style-type: none"> Which locations exist where? Where do residents go to get their WiFi? What works and what doesn't? 	Surveys, mapping	Nice
	Digital literacy in the neighborhood <ul style="list-style-type: none"> What is the status of digital literacy in the neighborhood 	Surveys, census data	Nice
Researching Existing Neighborhood Context and Social Capital	The demographics of the neighborhood: <ul style="list-style-type: none"> Who lives in the neighborhood? (Income, education, etc.) What are high-need populations for WiFi? 	Existing demographic data, secondary research	Must
	Existing social capital (including CBOs, government agencies, etc.): <ul style="list-style-type: none"> Which relevant organizations are working in the neighborhood? Are there any opportunities for collaboration? What already exists in the neighborhood in terms of broadband access and digital literacy? Are there any existing initiatives that are suitable for partnership? 	Existing data, mapping, info from community partners	Nice
Existing Neighborhood Internet Access Initiatives	What already exists in the neighborhood in terms of broadband access and digital literacy? <ul style="list-style-type: none"> Are there any existing initiatives that are suitable for partnership? 	Info from community partners and local government, the Internet	Nice

HOW TO INCLUDE A FELLOWSHIP IN THE ENTIRE PROCESS

A fellowship program can be a major benefit to your pilot. The fellows can be assets to the pilot in a wide range of core areas, like mapping and data collection. Fellows can also spearhead community engagement by visiting various organizations and giving presentations on the pilot. In doing so, they can help expand your organization's network and identify potential partners.

Fellows can also collect feedback from the community to determine if the pilot's goals align with the community's needs. After gathering information and making their assessment, fellows can present their findings, help determine solutions, and be part of the decision-making and implementation of the pilot. Including the fellows in the process like this will allow the community's youth to feel like their voices are being heard and, in turn, these youth will be more invested in their community and its well-being.

BUILDING OUT A FELLOWSHIP PROGRAM

To determine your target audience for the fellowship, you must first determine the age range you wish to work with. Teens have limitations with schedule and availability. Young adults between the ages of 18 and 24 tend to have more flexible hours for work.

The most important resource that you will need in order to start a fellowship is partnerships in the community. Institutions and organizations can help spread the word in the community about your fellowship and pilot. Institutions such as schools, community centers, parks, museums, and public organizations like the library can share any institutional resources they have, such as facility space for meetings and their social media feeds to share information and help spread the word.

Hiring a coordinator for the fellowship would be a worthy investment in the long run, and for the success of the pilot. Having an individual within, or outside, your organization who is invested in creating opportunities for the community's youth and will help supplement the curriculum and make the fellowship more robust will only strengthen the pilot.

The goals you set for your fellowship program will determine what skills the fellows will learn. It would be strategic to create curriculum focused on soft skills first, followed by hard skills training (e.g., data mapping and data collection).

The fellows should be included from the initial stage of the pilot to the end. If they have a full picture of the pilot and its goals, then they will better understand their role and how much they are contributing.

DETERMINE THE GOALS FOR A PROGRAM

In order to determine the goals of a fellowship program, you must determine how it would help your youth cohort. Will it be a program that imparts skill sets that improves their chances of finding a job? Will it give young adults from the neighborhood a valuable experience through giving their time to help their community? Will it be a program that offers stipends to young adults for participating and graduating from the program?

Learning from community youth by having focus groups is a wonderful way to determine what their needs are. Having meetings with local volunteer organizations or youth focus programs is a great way to connect with youths. Learning from the youth in the community can determine and help shape the goals you envision for the fellowship program.

After setting your goals, structure the fellowship. How many hours will the fellows have for training, how many hours will they put into engaging the community, how many weeks will the fellowship run for? The structure of the program will have to be aligned with deadlines.

After determining the goals of the fellowship, focus on creating a curriculum that meets them. The curriculum must be comprehensible and feasible for the youth cohort to learn and benefit from. Soft skills are crucial and must be implemented into the curriculum. Young adults all have different strengths and weaknesses, and soft skills can help close the gap. Consider including internal or external individuals who will help supplement the curriculum in various areas, such as Tableau training, assessment training, data privacy training, and public speaking training.

In choosing your fellows, it's important to vet candidates by holding interviews and learning about them and what they can bring to the program.



LESSONS FROM BKLYNCONNECT

The BklynConnect program recruited former participants from the Today's Teens, Tomorrow's Techies (T4) program. In having a cohort of past participants, it made recruitment easier, since the former T4's were also familiar with BPL policies and working with patrons. The skills they learned from being previous volunteers helped them with participating in the BklynConnect fellowship program. The curriculum was developed by Diana Plunkett and Jackson Gomes while various staff members and professionals conducted trainings for the fellows on Tableau, outreach, interviewing skills, digital equality, inclusion, access, digital privacy, and ethics. In total, they received about 20-plus hours of training over eight weeks.

The goal was to enable youth and teach them skills that would help them in engaging with and mapping a community. We had six fellows partner up in groups of two and each team was designated one of three communities. Their responsibilities were to conduct citizen survey distribution and collection, in-person observation in the branches, physical neighborhood mapping, quality of Internet testing, neighborhood outreach, and to attend neighborhood community workshops. After collecting data from each neighborhood, the fellows used Tableau to work on their final presentations. They created a final report that discussed how each community would benefit from implementation of the technology that would allow free access to Internet service. Ultimately, they were able to recommend which neighborhood was in most need of the technology.

What we learned from the BklynConnect Fellowship program:

- Allow fellows to participate from the onset of the pilot and give them clear goals.
- Soft skills for young adults are a priority.
- Be hands-on and provide supervision when training the fellows.
- Time management training is crucial for young adults.
- The fellows taught us that understanding a community's technology proficiency and education is integral, since it affects how well they comprehend the terminology on the materials and surveys they were given.
- Transportation could be an issue with young adults, so consider providing transportation for the duration of your fellowship program.
- It might be beneficial to have fellows rotate between all neighborhoods in order to give them a full scope and prevent bias, wherein each fellow believes the neighborhood they have worked in should be selected for the pilot.
- More flexible hours and a larger stipend could help recruit fellows who have conflicting job schedules and incentivize them to commit more time to the program.



TIPS & TRICKS

How a Program Can Benefit the Fellow

The fellows can benefit from the program in a multitude of ways. They will learn skills that are crucial for developing a career in today's competitive world. In many communities, young adults between the ages of 18 and 24 are considered vulnerable because most organizations focus on kids, teens, and seniors. Offering a fellowship program focused on adults in the 18-24 group will, in itself, be addressing a crucial community need.

The ultimate goal of the fellowship is that every fellow feels that this opportunity had a big impact on their lives. They will also receive very concrete benefits, like skills training, a potential stipend, and a certificate stating they were a fellow that contributed to the overall success of the pilot. In the long-term, the fellowship will hopefully help pave the way for their career.

COMMUNITY NEED ASSESSMENT & MAPPING

There are many ways to build and conduct a needs assessment. However, it is important that you choose the appropriate method to get the information you need to answer your research questions and match it to the capacity of your team. The following pages will share several research methods that can support your pilot implementation and collect both qualitative and quantitative insights.



DATA: Assessing your community's strengths, needs, and assets through statistics is an essential first step to better understanding the existing context and trends. Think about gathering data from multiple sources, including demographic data, existing reports, and maps.

Pros: Data will provide a solid base for your research, giving you insight on the scale of your audience, the broadband access in the house, and dynamics of the neighborhood. This will consist mostly of quantitative info, which is typically lower cost, and helps to create a baseline for your additional research.

Cons: Most data is collected by others, so it's important to review the sources and be aware of how the results might be skewed. Even though data can help build broad insight, it can be one-dimensional.

Collection Method: In most municipalities, much of the data (including census) can be found online. Reach out to a local record keeper, such as the library, to gather additional (historic) data.



SURVEY: Surveying is a good tool for receiving feedback from a larger group of people. Through a list of questions you can choose to keep it broad, test hypotheses (or assumption), or gather specific information that doesn't exist yet.

Pros: Surveys can be relatively simple and inexpensive to create and disperse, especially with free software. Insights can be more specific than those from existing data. Example: Asking where people currently access WiFi helps you to track not only if they have access, but also existing locations in the neighborhood.

Cons: Even though surveys are easy to distribute, they can be limited by the size of your personal and professional network.

Outreach: Distribution requires a multi-pronged approach; be creative in how you mobilize your partners, use multiple locations, and use incentives to reach more people.



INTERVIEW: A person-to-person conversation in the form of an interview can be a useful way of getting the story behind the data.

Pros: Interviews will provide more in-depth insights than surveys, since people are usually more willing to tell more stories and provide context to their actions, decisions, or behavior.

Cons: Conducting interviews is time-intensive. If very focused, the interviewee might feel more like a “subject.” It’s also important for the interviewer to try and stay unbiased throughout the conversation, which can be challenging at times.

Outreach: Identifying who you want to interview is a key part of conducting interviews, as it is helpful to have a diverse group of people to get a comprehensive image. Remember you can reach people through partners, over the phone, online, and in person.



COMMUNITY WORKSHOPS AND PUBLIC ENGAGEMENT: A workshop will provide community participants an opportunity to work together to share insight or challenges, develop ideas, and collaboratively make decisions, which will offer more nuanced perspectives. It also helps to level the playing field by valuing each participant’s insights and offering the opportunity to learn from each other rather than just from the organization that is leading the pilot.

Pros: A workshop can be a good way to create a community asset map, or to brainstorm suitable public WiFi locations. Through activities and conversation, you can gather a large amount of information quickly and create neighborhood buy-in for the project.

Cons: Participants may bring a general form of apathy (low participation) to the table and sometimes push for their personal agenda in ways that are unrelated and unhelpful to the collaborative project of digital inclusion.

Outreach: Workshops require intensive outreach, as they stand or fail with the interest level of your participants. Clearly communicating the benefit to the audience can help when asking people to spend a couple of hours helping your project.



ACCESSING & UNDERSTANDING EXISTING DATA



LESSONS FROM BKLYNCONNECT

Mapping and GIS

In some cases, it is helpful to make your data visual. For example, when you want to show a location of something or when you want to compare neighborhoods based on one criteria. For the BklynConnect pilot, we used existing public data to create several neighborhood maps, including a land-use map, an income map, and one plotting the different locations of public WiFi and CBOs. These maps were a helpful way to see where the target audience lived and in what proximity they were to existing resources.

- You can make maps offline or online using Geographic Information Systems (GIS), but in either case it requires a little bit of practice, trial, and probably some error too.
- You can find more information about mapping with GIS at [esri.com](https://www.esri.com)
- **Carto** is a great online mapping tool with a free version. You can find their lessons at carto.com/academy/courses/community/
- **Qgis** is a free open source desktop version at qgis.org

Every day millions of data points (census, ACS and other resources) are collected across the country on everything from demographic to health to phone use. The government, universities, institutions, as well as community-based organizations gather quantitative data on a variety of different topics and in all types of formats. Leveraging these resources can be essential to understanding the existing conditions, characteristics, and indicating trends in the pilot neighborhood. To use this data, you can either gather the raw data and distill the numbers you need yourself or you can find a publication that has already made the data more approachable.

DATA CONSIDERATIONS: There are a couple things to keep in mind when collecting any type of data:

Relevance: Is the data answering your research question?

Scale: Data exists on many different levels and details. You can look at data on a neighborhood level, city level, or census tract. How much does city data say about the community you are researching? Make sure to always mention the boundary that you used (income per neighborhood vs. per census tract).

Outdated Data: If your data is older than 10 years, ask yourself if it is still a valid representation of the current situation in the neighborhood.

Source: Make sure that the source of your data is reliable. Check how your source has gathered the information and always credit the source. People want to know where you get your info.

Sample Size: Be wary of very small sample sizes that lack statistical validation. You probably want to stay away from a research that draws a conclusion about a whole population based on 10 survey participants.

DEMOGRAPHIC DATA: In the US, one of the most used data sources is the extensive Census the government holds every 10 years and will be held again in 2020. It collects a very wide survey amongst census tracts (established boundary areas) throughout the entire country. The government also publishes the American Community Survey (ACS) every year. This is more of an estimate due to a smaller sample size, although it is statistically tested.

- **American Factfinder**, at factfinder.census.gov, is a good source for census data. You can select the location you are looking for in the search area and then select an indicator (e.g., income, population, education, etc.).
- For those in the NYC area, the **NYC Furman State of Housing 20** is an example of analyzed data; much of it is based on the American Community Census.

SPATIAL DATA: You can take your census data one step further by making the data visual through representing it on a map. There are different programs to create these maps, such as ArcGIS, Qgis, and Carto. Mapping data comes in different forms, but shapefiles (vector files that represent shapes for topics such as parks, streets, water, or census tracts, etc.) are what we used in BklynConnect.

- Some good sources for spatial data include your local government and universities. **NYC Open Data** is a portal for New York City data where you can find files ranging from police stations and CBOs to parks. The NYC Department of City Planning also has a large land-use database called **Pluto**. Find it at www1.nyc.gov/site/planning/data-maps/open-data.page

SURVEYS

Surveys are a popular method for collecting information and opinions. Surveys are often used to provide a snapshot of a population on a specific topic and can be general or targeted to specific segments of a community. In the case of BklynConnect, we used a short one-page survey, translated into Spanish, Bengali, French, and Haitian Creole to research who already had access to Internet through a paid subscription and where, if anywhere, the community went to access free public WiFi in the neighborhood.

KEY CONSIDERATIONS WHEN CREATING AND DISTRIBUTING A SURVEY

First, identify your audience and the best way to reach them: through phone, email, or in-person survey. An online tool will be the most time-efficient as all the results will be digitized already, but keep in mind that — especially in this pilot — many people might not have access to a computer. A way to overcome this is to use an iPad to conduct surveys in person. Great free online tools include: [surveygizmo.com](https://www.surveymonkey.com) and [surveymonkey.com](https://www.surveymonkey.com).

Surveys are a time-efficient information collection tool because:

- You can reach a large population and they are a low barrier for the participants, and since they are often anonymous, they encourage candid responses.
- It is easy to assess and share results, especially when using an online tool.
- They can be administered remotely, can be repeated, and are generally inexpensive.

Challenges with surveys include:

- Writing good survey questions isn't intuitive. It is easy to ask leading questions and make your survey too long, which may shorten the answers you get.
- Emailed surveys are ineffective in places where Internet access is limited.
- Written surveys are ineffective with illiterate populations.
- Not everyone is excited to fill out surveys and many neighborhoods have experienced an overabundance of research. Community members can feel used because they are constantly researched without seeing real benefits.

TYPES OF SURVEY QUESTIONS

There are a couple of questions you can include in your survey.

Demographic Questions: These questions can give you insight on how the population that filled out the survey thinks about gender, age, income level, place of residence, etc.

Multiple-Choice Questions: Questions that allow people to choose one or more answers.

Ranging/Rating Questions: Participants can specify on a scale from 1 to 5 whether they agree with a statement or not or whether the statement applies to them.

Open Questions: It is best not to include too many open-answer questions in your survey, as they take longer to answer. You could, for example, ask a specific question such as "Where do you go to get WiFi?"

You can find the entire BklynConnect survey on page 45.



TIPS & TRICKS

For Designing A Good Survey

Be transparent and explain why you are asking these questions and what you will use the info for.

Keep it short and simple. Additionally, in communities where people speak different languages you should translate the survey into different languages.

Try your survey out with a pilot group, get feedback, and adjust. This will help you identify any bias or leading questions.

Are you validating your results? With large surveys and quantitative results, it is important to validate them statistically. You can read more about this [here](#).



LESSONS FROM BKLYNCONNECT

Due to time constraint, we didn't conduct any interviews in the BklynConnect project, although they would have been a useful tool to learn about how people use public WiFi in the community or library Internet dynamics. Instead, we used observations, tabling, and more elaborate surveys as an alternative to interviews. The observations were completed by the student fellows, who observed how patrons were using the existing free WiFi in the library branches.

To leverage the expertise of the library staff, we also used an extended survey (in the form of long open-answered questions) to get a sense of their experiences and the direct need of patrons using the free WiFi in the library. In addition to our surveys, we conducted a tabling activity at local block parties and asked one simple question to everyone who crossed our path: Do you have broadband at home?

INTERVIEWS

Interviews, a two-way conversation, are often used to get a broader context about a situation as they allow for more in-depth questions and follow-up questions. They also allow for more flexibility since you can adjust your questions as the conversation goes, although it is always recommended to prepare a script or at least a set of questions.

KEY CONSIDERATIONS WHEN CREATING AND CONDUCTING INTERVIEWS

To gather in-depth insights, the most important first step is to establish a rapport and a level of trust with your participant. A couple important ways to build this trust are to:

- Make sure that you listen patiently. Do not interrupt — allow for pauses to give your interviewee time to think.
- Always ask for consent, especially if you want to record the interview.
- Come prepared. Make sure to prepare your interview questions ahead of time and practice beforehand so that you are natural, authentic, and confident.
- Try to ask neutral questions and stay unbiased. Ask questions that allow participants to tell a story; stay away from questions that can be answered with a simple yes or no.

Advantages of conducting interviews:

- They're the most accurate and thorough way to obtain qualitative data from your respondents.
- The interviewer can ask spontaneous questions as the conversation goes.
- There is time and attention, which can encourage the interviewee to give elaborate answers.
- You can also reach community members who might not have access to a computer to fill out online surveys.

Challenges of interviews as a collecting method:

- Conducting interviews is a time-intensive approach, both in the creation of the script and in the reviewing of the information. Also, they only reach one person at a time.
- Conducting an interview is a skill and requires practice, especially to be unbiased.
- The outcome is subject to the level of comfort between the interviewer and the interviewee.

CHOOSING THE TYPE OF INTERVIEW FORMAT

There are a couple of approaches to interviewing, which can depend on the interviewer's level of confidence as well as the information you are trying to get and the time you have per interview:

Structured Interviews: This approach requires the use of a full script that is intended to ensure that the same general areas of information are collected from each person. These are typically used when having phone conversations and repeated interview sessions. It can be challenging for the interviewer to maintain the flow and limits the possibility of spontaneous questions.

Conversational Interviewing: This approach has no predetermined questions. The order remains as open and adaptable as possible to the user's nature and priorities — the "go with the flow" method. These types of interviews can be harder to use for comparison across people.

PLANNING AND LEADING COMMUNITY WORKSHOPS

Participatory public engagements can take on many forms, from a tabling event to a more collaborative workshop. Public engagement is by definition a two-way process that involves interaction and listening, with the goal of generating mutual benefits. Effective public engagement invites local community members to participate in deliberation, dialogue, and action on communal issues that they care about.

For the purpose of implementing a WiFi pilot, a community workshop can be very beneficial since it allows you to include the perspectives of potential users on different scenarios of implementing a pilot. It also allows you to gain insights about the community's existing needs and any assets you can leverage. Finally, it creates a sense of awareness of the project in the community.

STEPS TO PLANNING A SUCCESSFUL PUBLIC ENGAGEMENT:

No matter the format of your event — a workshop, roundtable, or tabling experience — the following are a series of key steps and considerations for planning and leading your engagement.

1. Defining the Purpose of Your Engagement

Before planning the specifics of your workshop, it's important to clarify your goals and to frame what you (and your partners) expect to get out of the engagement. Think about what information, insights, and feedback will be helpful for the current stage of your pilot, as well as within the context of the larger implementation. It is key to prioritize focus and topics and to set expectations on how the engagement contributes to the needs assessment. Ultimately, you will use your purpose to define goals and activities for your agenda and to decide who will be beneficial at the event.

2. Logistics

Determining where you will hold the engagement is sometimes considered last, but to make sure you are planning and inviting accordingly, it's better to do this first. If your organization already has a space, great! If not, maybe a community partner is willing to lend their space. How many people can you invite? Does the space have the equipment required? It is also important to consider the most accessible time of day. If you want to reach as many people as possible, you might consider not holding the event, for example, on a Monday morning.

YOUR WORKSHOP TOOLBOX



Build your toolkit to match your context. For example, if you are preparing for participation, pack sticky notes, chart paper and pens. Consider too how you will record feedback. Bring a notebook, laptop or camera to help you capture the experience.

3. Who to Invite?

Engagement by definition is a two-way street; it requires participants! Inviting the appropriate people is not only important to ensure that the process works well, but it's also essential in building legitimacy and transparency. As you begin to determine your potential participant list, first consider whether the event will be open to the public ("Open Door") or invitation only ("Closed Door").¹³

Open-door experiences can be more challenging to focus content or activities since a more diverse set of participants will bring many different perspectives and may not be familiar with the process or the group. Insight collected are usually more high level, and it can be difficult to reach decisions. If you have time for multiple events, you may want to plan a combination of experiences that engage both the public and various invitation-based groups.

A closed-door experience limits the participant group to those with invitations. These can be easier to focus content or activity, but sometimes get derailed by organizations pushing their own agendas not connected to the pilot or research. When considering who should be at the table, be conscious of the implications of leaving out individuals or organizations. Also consider inviting staff beyond organizational or elected leaders, who often represent a different demographic than others in the community.

When you determine who to invite, keep in mind how these participants could benefit from the experience; is this a chance for them to network or share their work? The more you can keep their motivations in mind and communicate that in your outreach, the higher likelihood of attendance and participation.

4. Reaching Out

Give people plenty of notice. Use the outreach channels that suit your network and capacity, while being appropriate to your participants. This may mean putting up posters in shop windows or at the laundromat or contacting participants through an existing email list. Create materials that are clear, concise, and attractive, and don't forget to make them multilingual or in the language appropriate to the location. Keep in mind, this takes time; you might need to contact people several times, so use it as an opportunity to build relationships if possible.

5. Building Your Agenda and Activities

Because workshops focus on group discussion and activities rather than a central presentation, creating an agenda is essential to developing a thoughtful and thorough experience. Building on the purpose you've already defined, it allows you to plan specific activities that will set the stage for the group to achieve the outcomes you've defined in an inclusive and respectful way. You can find a guide to building an agenda in the Appendix on page 48.

To build familiarity, anticipate spending more time introducing the context of your pilot and make sure to include an icebreaker. Subsequently, there are many different activities you can do. Find a detailed explanation of a community asset mapping activity on page 45 in the Appendix.

6. Don't Forget to Document the Experience

Documenting public engagements enables conversations to truly impact the pilot as it continues. By planning for information collection in advance, it is much easier to gather insights after the event. You can have table scribes (people that transcribe the conversations in bullet points), the participants can document themselves by writing on forms or Post-it notes, or you can record the conversation.

LEADING A SUCCESSFUL ENGAGEMENT: THE ROLE OF THE FACILITATOR

In any engagement, it is always important to have someone support the participants by facilitating the workshops. Facilitators are responsible for guiding and easing the process of the engagement toward desired goals. They support everyone in doing their best thinking by encouraging full participation, promoting mutual understanding, and fostering inclusive solutions. A central part of being a good facilitator is to be prepared to help participants stay focused on the task at hand and value every participant as an equal, promoting individual and shared thinking. **Taking a neutral stance is essential to ensuring a smooth, successful process.**

Tips for being a good facilitator

- **Plan ahead thoroughly** yet be flexible during the engagement, navigating challenges and adapting to the course of conversation.
- There are many styles of facilitation. Like other forms of leadership, facilitation is as much about who you are as the tool you use. Each facilitator must evolve a style that is **natural and authentic**.
- Remember that the **participants do most of the talking** and navigating through the material in their own way. The facilitator simply provides the destination and guideposts.
- You **don't need to be an expert** in the subject area; your role is to create a safe, respectful environment for the group to interact with one another and engage with the topic at hand.
- Be an **active, engaged listener** who provides feedback, rather than judgment, and acknowledge differences as strengths rather than barriers to a solution.
- Always maintain a **positive energy in the room**. Be mindful of your body language and nonverbal responses that may indicate approval or disapproval. Be aware of what is not being said or who is not speaking, and elicit these perspectives with good questions.

Be careful to not allow a few participants to dominate the group while others increasingly withdraw, or allowing an emotionally triggered participant to derail the entire group and the agenda.

EFFECTIVE BODY LANGUAGE FOR FACILITATION

Maintain a friendly, open posture with your shoulders back and head up.



Remember to look up from your notes and make eye contact.



Embrace your natural gestures to welcome answers from participants or to emphasize your point.



ENGAGING WITH BEFORE, DURING AND AFTER

BUILDING RELATIONSHIPS THROUGH OUTREACH

Human-centered design is a two-way street; it requires participants but it can become easier as you build stronger community-based relationships. One advantage of using these approaches, such as interviews or workshops, is that it gives you an opportunity to build lasting relationships with community members that continue after the pilot.

When thinking about your outreach, for any kind of needs assessment information collection, be as strategic and creative as possible. For example, if you are thinking about tabling, consider strategic locations where you will have a lot of people coming by. When distributing surveys, can you think of a local store that is willing to have a stack on the counter?

There are powerful impacts of involving the community in the entire process. The more individuals are approached and regularly asked, the more they will feel involved with community activities and decisions, and will be able to explain and share them positively with others. Spreading the word through this informal approach will improve outreach. By building relationships, more creative ideas and solutions are uncovered, making it easier and faster to implement interventions. Building relationships also helps to spread the word, which helps to ensure the pilot's success once it's in place.

Challenges with involving the community in the planning of a pilot:

Distrust: organizations have not always been straight with community members as they have tried to sell, convince, or market their ideas, programs, and policies under the guise of public benefit or engagement. The public can see through this ruse.

Role clarification: building relationships is very difficult to achieve when individuals are treated as customers and not community members.

KEEPING RELATIONSHIPS GOING AFTER THE NEEDS ASSESSMENT

After all your needs assessment activities, it is very likely you will have gathered stacks of information. The next step is, of course, to organize and process it to determine who could benefit most from this pilot, where it would be most beneficial, and how implementing free WiFi could lead to community-based impact. Were commend including both quantitative and qualitative metrics to create a well-rounded evaluation.

It is also beneficial to consider who the information should be shared with. Think about this from the perspective of the “what” and “who.” What did you collect and measure and why is this impactful to share? Who does it matter to — your community, partners, participants, or stakeholders? In the case of BklynConnect, following the needs assessment, we created sharable 24-page reports for each of the three areas: Brownsville, Bed-Stuy, and East New York. Each report highlighted the neighborhood demand for Internet, what's happening at the library, the existing public WiFi, resources/support, and a series of opportunities for providing public WiFi. View the reports at bklynlibrary.org/about/reports-publications.

When sharing your insights make sure you are thinking about “what you are sharing”:

Process: This focuses on how you are gathering information or reaching your outcomes (e.g., the kinds of activities you conducted, what types of research approaches you used).

Content: This focuses on short-term outcomes, from one meeting or in relation to a specific milestone (e.g., themes drawn from your conversations or a group of ideas narrowed by workshop participants). Statistics on how many pieces of information have been collected can be helpful for future outreach.

Results: This focuses on “big picture” outcomes for your pilot (e.g., the direction for your next stage of planning).



LESSONS FROM BKLYNCONNECT

Reaching the Un-Networked

As part of the needs assessment process, the BklynConnect team looked for creative ways to engage with residents who were patrons of the library but also those who were not. Collecting surveys from three very large neighborhoods can be a challenge and the fact that not all residents have access to the Internet made it important to get outside and go to community members. To help the team collect the surveys, in addition to traditional email distribution, we also tried a couple other approaches:

- **Tabling:** We set up an interactive activity outside the library and during local events, including block parties, job fairs, health fairs, and public events.
- **Partnerships:** By collaborating with local partners we were able to distribute the survey to individuals who were not connected to the library, including immigrants and individuals in the shelter system.

By building on these personal interactions, we were able to capture significant insights and listen to personal stories about individuals' public WiFi usage and needs.

It is inevitable the outreach takes longer than initially estimated. An important lesson we learned from our outreach was to plan enough time to do it well.

Co-creating with the Community

Over the course of the needs assessment process, the BklynConnect held four workshops. The first one included staff from different library branches and aimed to gather insights about existing partnerships, co-creating research, and forming alliances. Then we held one in every potential pilot neighborhood (Bed-Stuy, Brownsville, and East New York). A total of 146 organizations were invited and, in the end, 66 diverse community partners attended. The purpose was to gather perspectives on different scenarios of implementing public WiFi in the neighborhoods and to gather insights on overall benefits and concerns.

To focus on both insight collection and relationship building, the BPL and TYTHEdesign teams planned the experience collaboratively. To help support productive conversations, TYTHEdesign provided four facilitators, the BPL team introduced the pilot and took part in the conversations, while the fellows contributed as table scribes.

Each event covered around two hours and the agenda was outlined as follows:

1. *Welcome and explanation of the pilot (15 min)*
2. *Activity 1: Warm-up and Networking: To help participants feel more comfortable with each other, we asked them to casually introduce themselves and share information about the benefits of WiFi from their organization's perspective. (20 min)*
3. *Activity 2: Pilot Scenarios: Every table was presented with a large neighborhood map that displayed series of pilot scenarios (WiFi in a park, commercial corridor, or residential area). The participants shared their perspectives about the potential impact, audience, opportunities, and barriers for each scenario. For some tables, instead of addressing the given scenarios, they organically chose their own process. (40 min)*
4. *Open Discussion: Suggestions for pilot locations and audience. This was to provide time for the participants to share alternative scenarios for the WiFi pilots. We also asked the participants to share any potential resources or collaborations they might see. (10 min)*
5. *Closing remarks and next steps. (10 min)*

These workshops were crucial for BklynConnect, not only because we gathered a lot of information through the workshops, but also because we uncovered potential partners for supporting the implementation of the WiFi pilot.

DECISION MAKING & PLANNING

KEY CONSIDERATIONS TO IMPLEMENTING A WIFI PILOT

As we are moving into the decision-making phase, it becomes important to share the key considerations we found after processing our findings. Although community stakeholders expressed many potential benefits to bringing WiFi to the neighborhood, there were several concerns and questions expressed as well. The following are highlights from our findings and key questions that need to be considered for any pilot:

Target Audience and Selecting the Location: We did not start the research by defining a target audience nor did we hear one being elevated over another. As a result, there was an opportunity for the pilot to either service a broad audience or be specific to a niche. Not all locations are equally attended, accessible, or open to the public and not all audiences are as mobile.

- Who are these services trying to reach and benefit?
- How does adding WiFi impact its surroundings? Could it negatively impact business or attract larger crowds? How?

Technology: People choose to connect to WiFi 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.

- How large of a footprint is impactful? How heavily will the technology be used?
- What will be the speed of the WiFi?
- What is the benefit of the addition of free WiFi when someone doesn't own the devices?
- How do you choose a location where the benefit of outdoor WiFi matches a community need and usability?

Transparency of the Pilot: Throughout the research, there were concerns about the benefits of a pilot of such a short nature among communities with such high needs. Additionally, some communities experience fatigue for government experimentation.

- How can you implement this pilot over the timeline and be mindful of the larger implications on the neighborhood?
- How can you work to reduce lack of trust and skepticism amongst community members?



Time Constraints: Many places have limitations regarding time such as a shelter curfew, park closing, or store closing time.

- Is there value in turning the WiFi on and off?

Safety and Security: The addition of 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, which could be unwanted.

- Can you include the police or local key stakeholders in the location choice and planning to ensure that the placement of the service does not exclude audiences or is in a place of contention?

Usability: People choose to connect to WiFi 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 — all of this will widely affect its usability.

- Are there opportunities for the pilot to keep the community needs in mind, while maximizing the bandwidth of the technology?

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.

- How does adding WiFi impact its surroundings?
- Could it negatively affect business or trigger competition?

Digital Literacy and Educational Support: Not all residents might know how to use the service. We did not talk directly to community members about their comfort level using computers and the Internet. Therefore, the statement that individuals who have less computer access are less digitally literate is an untested assumption.

- Is this an opportunity to educate and support individuals with digital training in a surrounding space?
- Should organizations be required to do future research to identify the appropriate skills for public WiFi services?

CHOOSING PUBLIC WIFI LOCATIONS

Where would additional public WiFi be most beneficial? The following scenarios were formulated based on insights gathered in the research process, through surveys, tabling, and conversations during the workshops. Our intention with sharing these in the playbook is to provide a snapshot of the potential audience, benefits, and key planning considerations for each location.



COMMERCIAL CORRIDORS

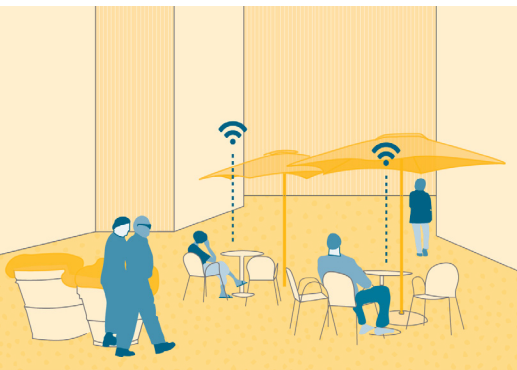
Free WiFi along a neighborhood's both heavily trafficked and less trafficked corridors.

Target Audience: Broad. This could benefit shoppers, commuters, businesses, business improvements districts, 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.

Key Concerns: Might it increase loitering? Might it be difficult to promote due to competition of already existing WiFi networks? Is your community transient or is it a hub?



PUBLIC PLAZAS OR OUTSIDE COMMUNITY CENTERS

Free WiFi surrounding a public plaza (potentially along a commercial corridor) or an existing community center.

Target Audience: Broad. Residents living close, service providers located in close proximity, 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 is typically higher and individuals typically spend more time in a plaza than other areas.

Concerns: Public WiFi 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.



PUBLIC PARKS

Free WiFi 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 and parents who multitask while in the park with family, and it may reduce 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, and safety.

RESIDENTIAL AREAS

Free WiFi located along a residential block or outside of a NYCHA housing development.

Target Audience: Smaller. It would most directly benefit residents living on that block.

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

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

Concerns: It excludes residents who do not live on the block, there might be an increase in loitering due to lack of seating, and higher density use might limit WiFi speed.



FAMILY SHELTERS

Free WiFi 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, reduce the burden on data plan, provide 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 other computer labs close. Local service providers could use the WiFi 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. Due to lack of seating, and higher density use might limit WiFi speed.



FOOD PANTRIES AND SOUP KITCHENS

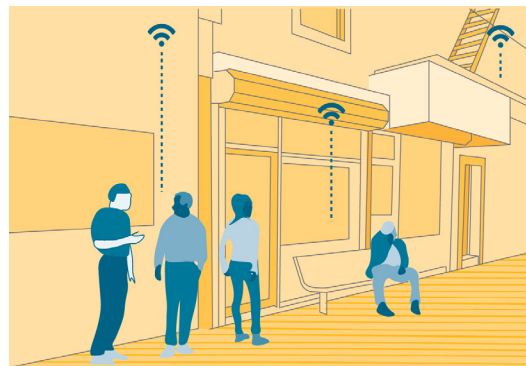
Free WiFi located outside of a food pantry or soup kitchen.

Target Audience: Smaller. Benefits residents receiving support at these locations, residents who live close by, and organizations providing these services to residents.

Examples of Use: Support reducing the burden on data plan, provide 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. There's less concern with loitering because people are already there. There's potential for local services to use the WiFi for programming.

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



HOW TO INCLUDE DIGITAL LITERACY & EDUCATION RESOURCES IN YOUR PILOT

In order for basic access to high-speed Internet to be useful to those who don't currently have access, organizations seeking digital inclusion have a responsibility to host web literacy education at a range of levels. While some people need guidance simply on how to access WiFi from their devices, others may need to know how to protect their personal information online, and others still may need advanced technology education in order to be competitive for a job in the technology industry. While it is important to recognize the diversity in topics and skill levels in technology education at all ages, it can be helpful to remember that people with different interests and skill levels can teach and learn from one another.

Libraries in general, and BPL in particular, already have a variety of programs to support basic computer literacy needs, and these could be expanded. In 2015, BPL offered 4,355 technology-related classes and workshops, with a combined attendance of 32,427 people. Most of these classes were focused on foundational computer literacy skills, such as "Email Basics," "Computer Basics: Improve Your Typing Skills," "Computer Basics: Google Maps, and Hangouts," and "Tech Time" for kids, teens, and young adults.

Other classes, many of which are taught by community members, are focused on specialized, though broadly useful skills such as digital privacy and security. The Data Privacy Project curriculum (dataprivacyproject.org/curriculum/) was developed by BPL staff and Research Action Design using open-source resources from the EFF (Electronic Frontier Foundation) Surveillance Self Defense Guide, Frontline Defenders, Library Freedom Project, and the Tactical Technology Collective. These classes and workshops help patrons access the Internet safely and responsibly while teaching them how to protect their personal information.

In addition to these foundational classes, the library extends its capacity to provide training by conducting more advanced training programs to volunteers and staff who, in turn, teach foundational classes to patrons. The Today's Teens, Tomorrow's Techies (T4) internship program trains 80-100 young people on weekends during the school year and in a two-week intensive program over the summer. The program teaches students how to provide technical assistance, and prepares them to propose and

teach their own classes in the branches. They are not only equipped with transferable skills they can use outside of the library, but are also trained to be a valuable resource for patrons seeking computer help. The T4 interns are in turn supervised by Technology Resource Specialists (TRSs). TRSs are people who were previously clerks, but were retrained through technical and train-the-trainer workshops to offer technology assistance, troubleshooting, and training services to patrons and volunteers.

DIGITAL LITERACY EDUCATIONAL PROGRAMS FROM ACROSS THE COUNTRY

Train-the-trainer programs like these have been successful in other contexts as well. Red Hook WiFi's Digital Stewards program has trained nine generations of Digital Stewards, who in addition to building and maintaining a community wireless mesh network, learn media and technology skills that can be used toward a career, and often to teach the next generation of Digital Stewards.

Detroit Future Media, an initiative of the Detroit Digital Justice Coalition, was a cohort-based media organizing program that trained community leaders of all ages in media and technology skills that could then be used to create jobs, foster community wealth creation, and support media-based organizing. Participants were chosen based on their vision for a better Detroit, and their capacity for organizing members of their community. While the program is no longer in operation, lessons from it were captured in the Detroit Future Media Guide to Digital Literacy (alliedmedia.org/news/2014/06/21/detroit-future-media-guide-digital-literacy).

Another instructive example out of Detroit is the DiscoTech event model. DiscoTechs, which are interactive, science-fair-style multimedia events, are a way of demystifying technology and educating the public, while simultaneously recognizing and supporting the existing tech capacity of everyday people, and conducting research with the meaningful input of community members of all ages. These events emphasize intergenerational knowledge sharing, and are a great way to find out how people currently interface with technology, and what is wanted and needed. This model is described and documented in the How to DiscoTech zine, produced in 2012: (alliedmedia.org/files/ddjc_zine_4.pdf).

INCORPORATING DIGITAL LITERACY EDUCATION INTO YOUR PILOT

Organizations seeking to develop free community wireless networks should use the opportunity to not only provide the basic skills needed for accessing the network, but also use it as an opportunity to extend capacity by training the trainers, and to find ways to incorporate community-driven education into the research, design, development, and maintenance arcs of the project.



TIPS & TRICKS

Planning Efficiency

Find out ways to collaborate with the existing technology education resources in your city. New York City has hundreds of technology-focused Meetups. Could some of these be persuaded to meet at local library branches in order to provide networking opportunities and advanced education to a broader swath of the community?

- When trying to determine what kinds of courses or workshops to offer, start with people's needs, rather than with the technology itself.
- Provide opportunities to access online educational resources and to practice them in a community setting.
- Encourage skill-sharing. In addition to extending beyond the capacity of your own staff, encouraging people to teach what they have learned promotes advanced literacy and technology capacity beyond the library walls.
- If workforce training is a goal of your program, check current relevant job listings for the types of skills employers want today. Especially in the realm of technology, these requirements are always changing, and the library has an opportunity to be a resource for new software and skills.
- Use "open source" practices for both your curricula and the projects students create. Encourage broad transparency, sharing, and remixing of content, information, and tools.

HOW TO DETERMINE THE TECHNOLOGY FOR YOUR PILOT

There are few different types of wireless network standards available and choosing the correct one depends ultimately on what the role of the network would be. In this case the network's role is to provide users with general access to the Internet on varying personal devices, i.e. laptops, computers, and mobile phones. And in a specified outdoor location where people would gather.

In assessing the location, we had to take into consideration where we would place access points so as to facilitate the best coverage and throughput. It was necessary to have an estimate of the number of people likely to frequent the location and thus use the network. It is common practice to estimate on the higher side and plan your equipment purchasing to meet that need.

Arriving at the chosen technology for the pilot, came from first selecting where the technology was going to be installed. In choosing a neighborhood it is also necessary to consider the circumstances under which the wireless network would be used and who it would serve.

Would the network be deployed along a commercial corridor, a public park or in a community gathering spot?

This is important as it informs the type of wireless devices that would need to be installed. Factors such as distance of signal before it degrades, where would the devices be installed or how much construction would be required, how much area is being covered, what objects may present obstacles to the signal strength, etc. all need to be considered.

How would the network receive its Internet connection?

Depending on where the network is planned, access to Internet services can be challenging. In our case we engaged the local cable company to acquire Internet service to the building where the networking equipment would be housed. For our scenario this was ideal, given that our wireless network was designed to provide service to a specific area in the community only, as opposed to

one that for example, spanned the distance of a number of blocks along a commercial corridor.

In a commercial corridor example, it may be required to secure Internet service to more than one property along the corridor to ensure usable connection speeds for users at various locations on the network.

Would the cooperation of any property owners be required?

The distance covered by the network could affect the number of property owners needed to cooperate. In building community-based networks this aspect is quite an important one, primarily for two reasons. The placement of equipment on a person's property, requires their agreement, and their willingness to be a location at which Internet service can be installed. Additionally, as we have learned some property owners may not be willing to provide this access free of charge. There may be rental costs involved. Assurances on the level of property damage if any also need to be clarified up front. There are a number of non-penetrating options available for the installation of equipment on properties.

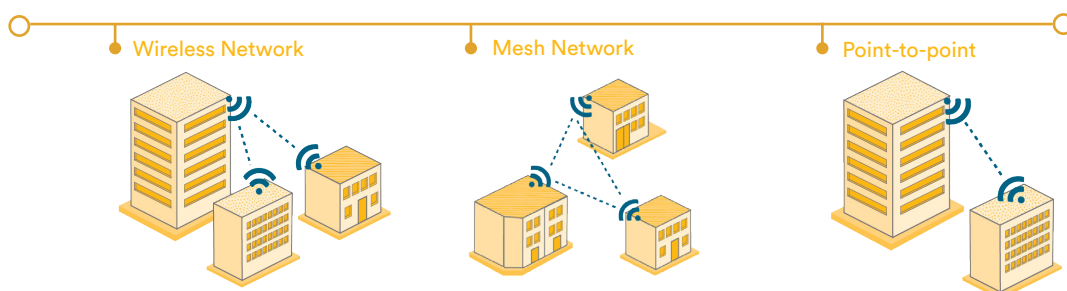
Do users own or have access to devices that can connect to the network?

Building a network that is as openly accessible as possible is key. An understanding of the community's ability to use the network on whatever devices they may have is necessary. Surveying the community to determine how and if they currently access the Internet can offer some insight into this. The build it and they will come approach is not necessarily applicable, especially if the community generally does not have access to personal devices.

Would the network remain available 24 hours a day?

We have learned that this can be a consideration in some locations. Some communities have cited safety concerns having a network available 24 hour a day.

INTERNET TYPOLOGIES



TECHNOLOGY TYPES

Wireless Network:

This allows people on a number of devices to communicate and access applications and information without wires. They allow people to interact with Internet from a location or a device, called an access point, they prefer. The Internet access point or a wireless router is typically used to broadcast a signal to which other client devices, phones, laptops or PDAs can connect to.

Mesh Networks:

A wireless mesh network positions is as a cost-effective method to create a wireless network over a specific area. It's system uses the wireless router as a node in a larger interconnected network of nodes. Each node sends and receives data and relays to other nodes, thus propagating the data on the network. In the mesh scenario, it is not absolutely necessary for each node to be connected to its own Internet service. One node can relay its Internet connection to another without dedicated Internet access.

Point -to Point Networks:

Often called P2P, this networks is a simple form of wireless networking that connects two locations using a wireless link. A long range wireless access point has a connection to the Internet and beams a signal over to another access point in a location where the service is needed. The receiving access point distributes the signal and provide users access to the network. Typically, this architecture is best used in a location that is hard to provide Internet in.

Range

Youth-built portable network kits (PNKs) can extend the network from one building or public square to about a half square mile, depending on where they are placed. The PNK connects devices in a small area – anywhere from one building or public square to about a half square mile if you add or “mesh” additional WiFi devices to create a wider range. If you add additional kits, you can mesh them together to create an even wider range.”¹⁴

Typical technology used in deployments such as these would be:

- High speed Internet service.
- Outdoor access points
- Networking equipment i.e. routers, switches



LESSONS FROM BKLYNCONNECT

In pursuing our purpose to address community needs we were able to identify a small community gathering space in the Brownsville area of Brooklyn called Osborne Plaza. A cul-de-sac located at the end of Osborn Street just off Belmont Avenue, was already the location of a Made in Brownsville mural designed and implemented with youth from the surrounding area. Additionally, this is also one of the sites for NYC's first Neighborhood Innovation Lab, which placed solar-powered benches that provide cell-phone charging and smart trash cans that alert the city when they're full.

The Brooklyn Public Library's technology inclusion offers high-speed outdoor wireless Internet access to the community using that space. Accessible to anyone, the network is an open public network with access points placed on the 50 Belmont Avenue building, adjacent to the plaza. It is recommended that each access point account for the support of a minimum of 30 – 40 users, we have installed two for the location. The solution is also scalable via the use of its inherent mesh technology, coupled with the deployment of high-gain antennas that allow for point-to-point links to access points.

Management and maintenance of the wireless network and included equipment present a stewardship opportunity to the youth at the Brownsville Community Justice Center that occupies the 50 Belmont Avenue building. Through the use of a cloud-based Network Management Controller, youth will have the ability to monitor and apply configuration changes to the network as the need arises.

To decide our technology type, we determined that our goal of creating hands-on digital literacy and networking education was a central focus for us. We wanted something that our group would be able to spend time with that would teach skills beyond the single installation. Portable Network Kits, a pedagogical tool and microcosm of the Internet in a box, serve this need, so we chose hardware that was compatible with these. This meant that BPL could install a single access point in Osborn Plaza, but the network could continue to grow through nodes constructed by BCJC youth, or anyone who wants to participate.

IMPLEMENTATION & EVALUATION

CONSIDER MULTIPLE LEVELS OF PARTICIPATION

When designing the ways that people will contribute to and participate in your project, it can help to think of concentric circles of participation. In the center is the small committed group of individuals from the neighborhood who will ultimately be designing and constructing the network. It can help to have consistency with this group: for example, meeting at least weekly, paying for their time, and supporting this group with whatever they need to build the network, such as requisite digital literacy education.

Outside of this circle is the larger community of people impacted by the technology project. These can be residents, workers, and business owners in the vicinity of your network, or friends and relatives of your small group of committed individuals. Since not all of these people will have the time and interest to be involved regularly in the planning and implementation of your project, think of lower impact ways to involve their insight and needs into the project. Your small group can hold community meetings and conduct interviews and other forms of user research.

Finally, the largest circle is the global community of people who may want to learn from and remix your project. For this group, it's helpful to document your process, including the positives and negatives, and to share tools and curricula in an accessible, open source way. You may identify more levels, and these levels certainly overlap. But just remember that abundant community participation, decision-making, and ownership is essential (even if it takes extra legwork on your part to ensure that this happens).

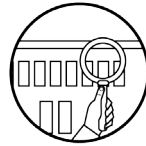
SUPPORT THE EXISTING ECOSYSTEM AND LOCAL ORGANIZING

“Wherever there is a problem, there are already people acting on the problem in some fashion.”
—Allied Media Network Principles

Who else is doing similar work, with similar goals to you? The New America Resilient Communities program trained dozens of people across New York as “Digital Stewards” to build community mesh wireless networks in their communities. We built local power by hiring two of these stewards from Gowanus, another neighborhood in Brooklyn, to train our youth, and hope that our youth will go on to train others.

Additionally, consider where else you spend money or how else you could involve members of the community who might have the same goals, but different skill sets than you.

- Can you get catering from a neighborhood business for your event?
- What about printing?
- A DJ from the neighborhood?
- Can these people host nodes of the wireless network?



EVALUATION OF THE PILOT

When thinking about the evaluation of a project like this, or indeed, any project, it is important to start with what is trying to be accomplished. For example, BklynConnect was rooted in two main focus areas: digital literacy education, and creating access to WiFi in a neighborhood with sharply limited access. We therefore focused our evaluation in these two areas.

Often, evaluation answers questions about what was achieved. Questions like:

- By the end of the digital literacy program, were learners equipped to teach and mentor another generation towards building and maintaining a network?
- Were they equipped with the skills to be lifelong learners by using library resources, online resources, and cooperative learning networks?
- Did they gain greater control over what personal data they share everyday, in a way that is personally appropriate for them?
- Did they leave with new job skills that will foster economic independence?

For BklynConnect, our learning goals were outlined in detail in a curriculum guide, inspired by the Backwards Design Model.¹⁵

If structured as a project-based curriculum, the evaluation can be seen in the outcomes of the project(s). In the case of BklynConnect, individual prototypes of “consentful technologies” designed by each intern, and the portable network kits and nodes constructed by and installed by interns. Additionally, interns blogged about their reflections during the course of the project.

It is also possible to measure some of the outputs resulting from the implementation. Specifically, for the deployment of a wireless network:

- How many people access the network each day?
- How many community events in the area each year rely on new access to WiFi?
- How many views/clicks into local content are there?



TIPS & TRICKS

Signage

There will be a need for a fairly robust campaign to communicate the testing of the service and be transparent about the fact it's a pilot. Consider signage as an opportunity sharing local services, not just promoting the pilot.

- How are you going to communicate to the neighborhood that this service exist?
- How will the location impact the communication?
- How are you going to communicate the value the pilot adds to the neighborhood?

Outreach

How can you leverage existing and/or new community relationships to help promote the pilot.

- How do you need to get on board of this particular location? If its public, what city agencies or local representatives need to be informed, but also what local representation could assist in the process?



LESSONS FROM BKLYNCONNECT

BklynConnect's timeline and implementation strategy was driven by strategic collaborations, and a theory of participation that prioritizes those most likely to benefit and those most at risk of being impacted (both positive and negatively) by the implementation of new technology.

In the summer of 2017, we conducted a data-driven needs assessment of neighborhoods in Brooklyn that had the lowest rates of adoption and availability of broadband Internet, and narrowed down to three neighborhoods. Since the neighborhoods were similar in terms of need, it was important at this point that we find a suitable partner organization, or organizations, in one of these neighborhoods to partner with. In particular, we needed an organization that would be committed to carrying on the project after we piloted with them. After identifying Brownsville as the neighborhood with the highest need, we searched for a site to launch the preliminary access point, and a cohort of committed organizations and, within those, committed individuals who could meet regularly to design and build the network.

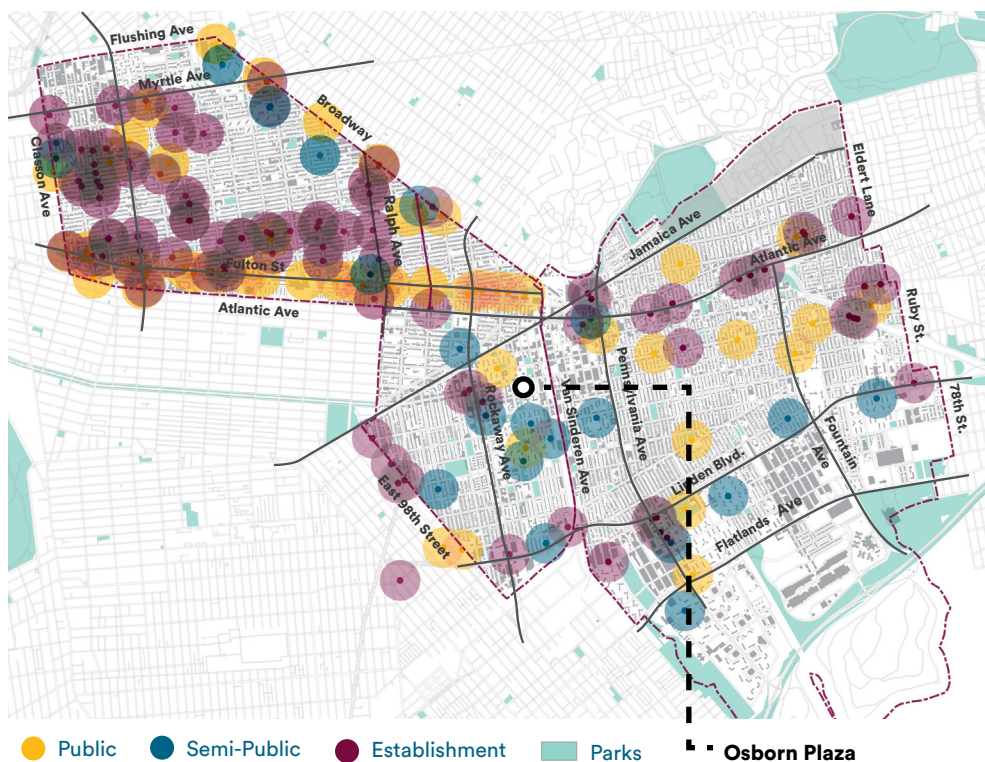
In collaboration with the Mayor's Office of the Chief Technology Officer's NYCx project, we chose to install the first access point in Osborn Plaza, a new public outdoor space in the neighborhood that currently has no free, publicly available access to the Internet. We also partnered with the Brownsville Community Justice Center, an existing youth-serving organization that provides internships to young people as an offramp from the criminal justice system, and as a way to build valuable job skills and to improve the community. This group of teenagers would be our "committed individuals." In the interest of having a local technology designed and built by those who may most benefit, and conversely have the most potential to be negatively impacted, the youth of BCJC were a perfect fit. Many have inconsistent and often unreliable access to computers and the Internet, and face persistent surveillance by law enforcement, and are therefore "experts" on the benefits and risks of new implementations of local technology. The group of around five young people, aged 14-17, received a stipend to meet twice a week for a combination of digital/data literacy education and project-driven work constructing the wireless network along Belmont Avenue.

Additionally, this matched with our organizational capacity and budgetary considerations. As a small pilot program with no staff dedicated full-time to the project, we would not normally have the capacity to fully coordinate and run a project-driven, youth-driven, paid digital literacy and networking internship. However, our collaboration with the Brownsville Community Justice Center, allowed us, even with limited capacity, to meet youth where they were, have BCJC handle the coordination and space needs as part of their regular operations, and draw on their intimate knowledge of their neighborhood and community.

The technology selection was driven by a pedagogical need for a network that could, at least partially, be built by training and equipping a group of community members, such as the youth of BCJC. We partnered with New America's Resilient Communities Program, which through the RISE : NYC initiative, has trained dozens of "digital stewards" at five sites around the city to build their own mesh wireless networks. One of their projects has been to design an "network-in-a-box" kit called a Portable Network Kit, which is a teaching tool that contains a functioning microcosm of the technical infrastructure of the Internet. We needed our access point in Osborn Plaza that connected back to the backbone of the Internet to be compatible with these kits in order to extend the educational program, and the network, in the future. With the curriculum developed by members of Resilient Communities, students use the kit to learn networking and infrastructure skills, handyperson skills, and community organizing skills. For our pilot, we hired two digital stewards to train BCJC Tech Lab youth in how to assemble and install Portable Network Kits, as well as software on the local networks.

It was important that the project remain transparent and driven by the community, so it was intentionally open on a couple different levels, which can be thought of as concentric circles of participation. In the middle, the smallest but most dedicated group was the cohort in charge of designing and implementing the network. The interns did neighborhood and family outreach and user research to find out what people needed and wanted from a free community wireless network. In the broadest, but lightest level of commitment, the curriculum and project documentation was made open source, for anyone worldwide or within Brooklyn to access and remix.

Digital Access Points in Brownsville, East New York & Bedford Stuyvesant



BKLYNCONNECT SITE

Distribution of public and semi-public WiFi access points across Brownsville, East New York and Bed-Stuy, Brooklyn are extremely uneven. Ultimately, Osborn Plaza, a public space in the heart of Brownsville with very limited public WiFi access was the chosen site of the BklynConnect pilot. WiFi access at the plaza launches summer 2018.

APPENDIX

In the following pages, you will find templates and guiding questions to help you along the way as you plan your own pilot.

Appendix includes:

43	Resources This section includes a variety of resources, from case studies to academic publications to informational guides, to help you dive deeper and find the guidance you need.
44	Building Interview Questions and Survey This section includes additional resources for directly collecting insights from community members through these two methods. Additionally, this include the survey used during BklynConnect.
46	Mapping Neighborhood Assets This approach provides several ways, including a group activity, to support the pilot team in collecting and mapping the existing assets of any neighborhood.
48	Building Your Agenda This section will help you to draft an agenda for your community engagement, dividing your time into sections and determining goals and activities for each. This includes information on how to select your activities and how to estimate and manage time.
50	Agenda Template Building on your agenda framework, this template dives deeper into specific steps and prompts to guide facilitators through each phase of the agenda.
53	Sources The bibliography outlines references used in developing our approach and the content of this guide.

RESOURCES

The following is a set of resources on community engagements as well guides for creating community-centered digital networks.

BOOKS

The Designing for Growth Field Book: A Step-by-Step Project Guide. Jeanne Liedtka, Tim Ogilvie, and Rachel Brozenske | Columbia University Press, 2014.

Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers. Dave Gray, Sunni Brown, and James Macanufo. | O'Reilly, 2010.

101 Design Methods: A Structured Approach for Driving Innovation in Your Organization. Vijay Kumar. | John Wiley & Sons, 2013.

Design Thinking Process and Methods Manual. Robert Curedale. | Design Community College, 2013.

Facilitator's Guide to Participatory Design-Making. Sam Kaner, Lenny Lind, Catherine Toldi, Sarah Fisk, and Duane Berger | Jossey-Bass, 2014.

This is Service Design Thinking. Marc Stickdorn and Jakob Schneider | John Wiley & Sons, 2011.

Designing the Conversation: Techniques for Successful Facilitation. Brad Nunnally, Dan Willis and, Russ Unger. | New Riders, 2013.

Digital Dead End: Finding for Social Justice in the Information Age. Virginia Eubanks. | MIT Press, 2011.

Networks of New York: An Illustrated Field Guide to Urban Internet Infrastructure. Ingrid Burrington. | Melville House, 2016.

ONLINE RESOURCES

Community Engagement Toolkit | sparc.bc.ca/
Tools and assessment for community engagement

Gamestorming | gamestorming.com/
Similar to the published book, with a focus on creative thinking and brainstorming activities.

IDEO Design Kit | designkit.org/methods
This guide is focused on human centered design, but does include several good resources and methods for doing community based need assessment.

National Council for Dialog and Deliberation | ncdd.org/
This is a large open network for community engagement. They have several resources, from activities to measuring success. The website is very comprehensive but a bit of a challenge to navigate.

Service Design Tools | servicedesigntools.org/repository
A great resource for different types of activities, with case studies.

Wireless Networking in the Developing World | wndw.net/
A resource for designing, implementing and maintaining low-cost wireless networks

Teaching Community Technology Handbook | detroitcommunitytech.org/?q=teachcommtech
Guide to developing community-routed technology workshops and curricula

(Re)Building Technology: Build-it-ourselves Community Networks | communitytechnology.github.io/
A collective resource for digital stewardship, digital justice and community infrastructure

How To DiscoTech Zine | detroitcommunitytech.org/?q=content/how-discotech-zine
Instructions for hosting DiscoTechs (Discovering Technology fairs)

BUILDING INTERVIEW QUESTIONS & SURVEYS

GATHERING INSIGHTS FROM SERVICE PROVIDERS

It can be helpful to get contextual information from a group of experts. In our case, we used interview questions to ask about the experience of library staff working and supporting local patrons on the computers. For this pilot, speaking with digital literacy trainers or frontline staff at computer centers provided insight on the programming or services to be implemented alongside the free WiFi.

For BklynConnect, we used a survey to reach the library staff, but as you might notice, it entails a lot more open questions. The following questions can easily be adapted for an interview:

- In your own words, describe who are the different community members using your computers.
- Briefly describe what patrons are typically using the computers for.
- List the 5 most common computer behaviors.
- List the top 5 most common patron requests for support or key questions.
- Describe the challenges or barriers that your patrons are facing when accessing the Internet or using the computer itself. Share at least three.
- Describe the challenges (if any) you face in serving the computer needs of your patrons.
- If more expansive free Internet services were provided for your neighborhood branch, how do you see this benefiting the community? Additionally, do you have any concerns?

BUILDING A SURVEY

When creating your own survey, there are a few best practices to keep in mind to make sure that your data collection instrument is accessible, efficient and neutral. The following are some key points to consider in crafting your survey:

- Include a demographic question in your survey. This will give you the possibility to look at results per age group, income level, place of residence, etc.
- Make sure the language you use is straightforward and cannot be interpreted in multiple ways.
- Make sure to use either “broadband” or “WiFi”.
- Determine what information is nice to know and what is crucial to the research. In our case, we kept gender out because it wasn’t relevant to our pilot.
- Think about the length of the questions. People will not likely want to take more than five minutes to fill out your survey.
- Think about the sequence of the questions. Ask the most important ones first to make sure that they get a high response rate.
- Avoid using too many open questions as they take more time.
- Make sure your survey is unbiased, and try to keep assumptions out of it.
- If you want to reach more people, you can consider attaching some sort of lottery between all the participants. This will likely increase your response rate.

On the following page we have included a BklynConnect survey. This can easily be adapted to an online platform and translated as needed.

THE BKLNCONNECT SAMPLE SURVEY

IMPROVE YOUR INTERNET ACCESS!

Brooklyn Public Library is looking for a neighborhood in which to run a pilot that would increase Internet access. We are considering your neighborhood. Will you please answer anonymously a few brief questions to help us?

1. I live in:

- ☐ Brownsville
- ☐ Bed-Stuy
- ☐ East New York

2. My age is:

- ☐ 8-12
- ☐ 12-18
- ☐ 18-30
- ☐ 3-60
- ☐ 60+

3. In the last two months, where did you connect to the Internet in your neighborhood? (Check all that apply)

- | | |
|----------------------------------|--|
| <input type="checkbox"/> Home | <input type="checkbox"/> Parks |
| <input type="checkbox"/> Work | <input type="checkbox"/> Cafe/Restaurant |
| <input type="checkbox"/> Study | <input type="checkbox"/> Subway Stations |
| <input type="checkbox"/> Library | <input type="checkbox"/> Other: _____ |

4. Please select the reason(s) you connect to public WiFi. (Check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Email | <input type="checkbox"/> School homework |
| <input type="checkbox"/> Government Forms | <input type="checkbox"/> Web Surfing |
| <input type="checkbox"/> Job Applications | <input type="checkbox"/> Games |
| <input type="checkbox"/> Social Media | <input type="checkbox"/> Online Banking |
| <input type="checkbox"/> Videos/Music | <input type="checkbox"/> News |
| | <input type="checkbox"/> Other: _____ |

5. Why do you use Public WiFi?

- ☐ Its' free or cheaper to use WiFi
- ☐ My mobile data connection is slow
- ☐ I use it when I have reached my mobile data allowance
- ☐ I don't have a smartphone with a mobile data plan
- ☐ I don't use WiFi

6. What devices do you or your household own?

(Check all that apply)

- ☐ Mobile Phone (non-smartphone)
- ☐ Smartphone
- ☐ Laptop
- ☐ Desktop
- ☐ Tablet

7. What paid plans do you have? (Check all that apply)

- ☐ Pay-as-you-go phone data plan
- ☐ Monthly phone data plan
- ☐ WiFi/broadband or dial-up Internet access at home
- ☐ A phone data plan and WiFi or dial-up Internet access at home
- ☐ None of the above

8. How often do you run out of data on your phone?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Always

9. What concerns do you have about using public WiFi?

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Security | <input type="checkbox"/> Struggle to connect |
| <input type="checkbox"/> Speed | <input type="checkbox"/> If the hotspot is owned by the premises |
| <input type="checkbox"/> Time Limit | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Cost | |

10. When was the last time you didn't have access to the Internet? What did you need it for? Where did you go?

MAPPING NEIGHBORHOOD ASSETS & COMMUNITY ASSET MAPPING ACTIVITY



ASSETS TO CONSIDER¹⁶

The following list provides examples of the different types of assets that may fall under the more general categories:

What kinds of free public WiFi spots exist?

- Coffee shops/restaurants
- Community centers
- Libraries
- Stores
- Schools
- Parks

What kinds of community-based organizations exist in the neighborhood?

- Community centers
- Nonprofit organizations
- Clubs and associations

What kind of health care exists in the neighborhood?

- Hospitals and clinics
- Elderly care facilities

What kinds of other services/resources?

- Chambers of commerce
- Banks and credit unions
- Social services department
- Police department
- Fire department
- City government
- Transportation authority
- Other governmental departments
- Libraries
- For-profit businesses
- Business associations

What kinds of arts and recreation?

- Historic, arts, and cultural groups
- Art centers
- Community gardens
- Natural resources and landmarks
- Parks and recreation areas
- Playgrounds

COLLECTING ASSETS AS A RESEARCH METHOD

As part of your research method, you can use different forms of mapping to get an overview of the assets of the neighborhood. Building on the core focus of your research, think about the types of community assets that could either impact and leverage the pilot, or be more specific and dive deeper for information that you need about these assets. Examples of different types of mapping include the following:

WiFi Access in the Neighborhood: There are different ways of getting an overview of the available public WiFi available in the neighborhood. Look at the coffee shops, community centers, as well as the public library or hospitals that provide it. There are many different ways to locate WiFi access, including walking through the neighborhood, using Yelp, or simply asking people on the street. Geographic Information Systems are a great way to map the locations and see where gaps exist in the neighborhood. When collecting this information, consider the following;

- Which places provide free public WiFi in the neighborhood?
- Identify all the requirements of the sign-in process.
- Are there any boundaries or limitations to using this WiFi?

Neighborhood Organizations: An inventory of community-based organizations (CBO) in the neighborhoods can provide value in assessing existing social capital and providing an overview of possible collaborations. It is important to think about the type of community-based organizations: government or commercial resources. Usually local governments, community boards, libraries, and Yelp are good resources for collecting this information. When collecting this information, consider the following:

- What exists within the neighborhood? What's in walking distance? What's missing?
- Is there any potential for partnering with this organization?

Existing Digital Literacy Initiatives: It is likely that there are already existing initiatives for WiFi, basic computer classes, and digital literacy in the neighborhood. Are there any reports out there that might provide an overview? When collecting this information, consider the following:

- Which existing initiatives are happening in your neighborhood?
- Is the initiative used by your target audience? Is there a potential for partnership?

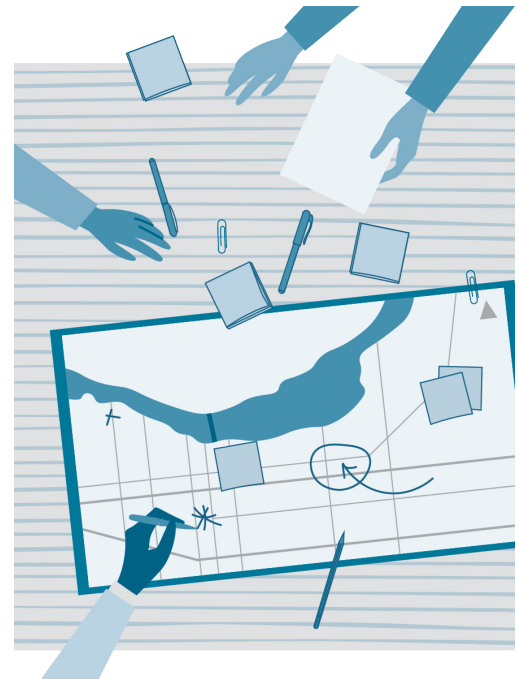
COMMUNITY MAPPING ACTIVITY¹⁷

You can also use a collaborative mapping activity as part of a community engagement. This activity helps gauge community perceptions of an area's services, amenities, and resources. It involves community dialogue over a particular place or geographic area (such as a neighborhood) and community members' experience with the physical environment of that place.

With community mapping, community members are formed into small, breakout groups that allow them to collectively discuss and map their communities. This will result in an asset map with identified resources, which can be used as a guide for planning your public WiFi pilot.

Provide a map of the local area, along with Post-its, stickers, and pens for participants to annotate.

1. Present a series of prompts asking participants to add the locations of resources, assets, or challenges that are relevant to your engagement to their maps. For example, one prompt could ask participants to delineate safe and unsafe places, and another could ask for the health resources available in the neighborhood.
2. Provide one prompt at a time, using a different color Post-it for each to make it easier to document and review later. Allow participants to fill in the map for one prompt before moving on to the next. Rather than focusing on the accuracy of the information, the idea here is to understand what participants know, and what is important to them.
3. Open a discussion around areas of need, or opportunities for growth. Regarding the places you put on the map, ask the following:
 - Of the places you put on the map, which places are the assets?
 - Why do you consider these places assets? Is there something about where they're located that makes them an asset?
 - If you need free public WiFi, where do you go in the neighborhood and why?
 - Where do people gather? What is a busy place? What is a place that people mostly avoid?
 - Looking at the places that you go to outside the community/ area, would you say that these places are assets missing from the community? What types of these assets are missing?



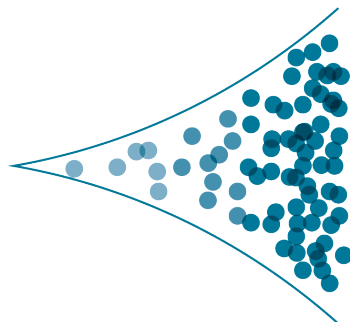
POTENTIAL MODIFICATION

Try using different materials to add to the map, like photos, magazine cutouts, stickers, chalk, etc.

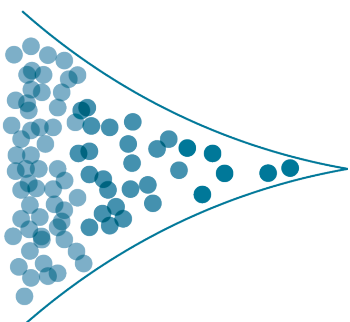
Explore topics like:

- Community features and resources (services, businesses, faith groups, recreation, health care, culture, people power, etc.)
- Geographic attributes
- Opportunities (“coming soon”, “could be,” and “what ifs”)
- Needs, concerns, or gaps

BUILDING YOUR AGENDA



Divergent Thinking is about expanding possibilities and generating insights.



Convergent Thinking is about analyzing and narrowing possibilities, synthesizing or choosing between ideas or insights.

Divergent and convergent thinking provide unique benefits to problem solving. The former promotes qualities of imagination, originality, risk taking and flexibility while the latter is apt at achieving refinement, directness and opportunities to match participant's capacities. Ideally, exercises that foster both divergent and convergent thinking are included in your agenda.¹⁸

SELECTING ACTIVITIES

As you determine the activities and conversation topics for each section of the agenda, consider the goals you have defined, as well as the needs of participants and the larger context.

Determine key topics to discuss

- Are they comfortable or challenging?
- Do you want everyone to provide their own perspective, or to build on ideas collaboratively?
- What documentation do you need to walk away with to be successful?

Evaluate participation level and group dynamics

- How might group dynamics impact productivity?
- What might participants need in order to feel that the experience was meaningful and successful?

Consider comfort level and barriers to participation

- Has the group participated in this type of experience before?
- Where might barriers to participation be? How might they impact the experience?

DRAFTING YOUR AGENDA¹⁹

In order to flatten hierarchy and provide opportunities for participation from everyone, it is important to clearly define moments of divergent and convergent thinking.

Because facilitated conversations and collaborative experiences focus on group discussion and activities rather than a central presentation, creating an agenda is essential to developing a thoughtful and thorough experience. Start by dividing the amount of time you have for your engagement into a series of sections that achieve different goals.

For each section, include:

- Goals: What are you trying to accomplish?
- Time range: How long will it take?
- Materials needed
- Step-by-step instructions
 - Activities and questions/prompts
 - Talking points, if you are presenting
 - Prompts and supporting questions to encourage participation
 - Responses to questions or concerns that might come up
 - Alternative ways to approach the activity step
 - How to close the activity
- Documentation plan: How are you collecting insight or tracking conversation?

One of the greatest challenges in developing an agenda is figuring out what to focus on. While it can be tempting to explore every topic, it is important to prioritize goals in order to create a series of realistic tasks for your participants. Successful agendas outline a series of realistic tasks in light of your stated goals. Use the template on the opposite page to begin structuring your workshop.

As you are developing your agenda make sure to:

- Build in time at the beginning of your agenda to share your purpose with the participants, clarifying goals and next steps. Often, a portion of the opening will be spent bringing everyone up to speed, through a presentation or discussion. Make sure to leave some time for questions – this sets expectations around openness and transparency, even if it derails the event temporarily.
- Similarly, make time at the end of your agenda for closing and a discussion of next steps. Explain how participants' contribution will be used moving forward. Focus on how and where information will be shared, how it supports a larger process, and what happens next, especially if you are holding another event. Make sure to end by providing participants with a sense of completion.

ADAPTING AN ACTIVITY TO YOUR AGENDA

The following activities are intended to serve as building blocks for your engagement. You should always customize your agenda according to your project goals.

Step 1: Frame the activity to your context.

All activities need to be introduced with instructions, as well as contextual information that frames the problem in a specific way. This could be a question, a group share-out from a previous activity, or a more explicit presentation. While framing should be specific enough to generate useful thinking, it should also be open-ended and allow people to approach the activity from many angles. Make sure that you are not leading the group to a predetermined answer.

Step 2: Breaking the activity into multiple steps.

Each task should only require one way of thinking. For example, separate tasks that require participants to list options from tasks that ask them to choose between those options. Simpler steps make the process clearer for participants, and thus easier for them to participate. They also make it easier for the facilitators to explain each task, keep participants on topic, identify pain points, and adapt to the group dynamic.

Breaking up activities too much can make the experience feel halting, and participants may not be able to think through each task as fully. Good table facilitators can mitigate this problem by supporting small groups more closely throughout the engagement.



REMEMBER

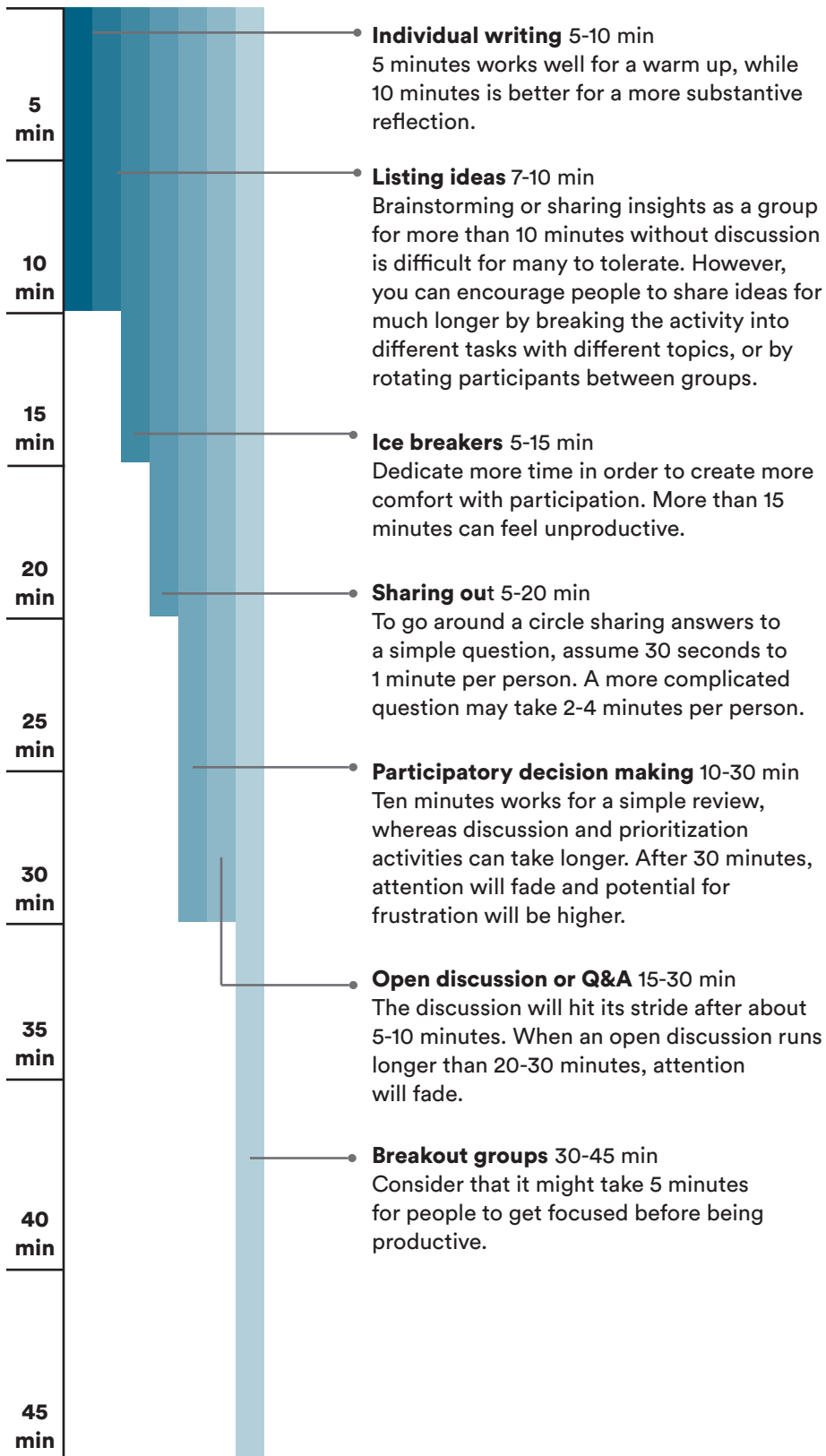
- Less is more. No matter what, it is unlikely you can discuss more than 3-5 topics during any engagement. If you try to do too much at one time, you run the risk of exhausting participants before you accomplish your goals and missing opportunities to collect detail or depth. Plan for activities to take longer than you think they will – it's important for participants to have enough time to explore ideas fully.
- Incorporate flexibility into your agenda. If your engagement is scheduled for more than 2 hours, build in extra time for a break. Should you need a moment to reset the tone, use your break to regroup and refocus the experience.
- Provide the needed support to make the process inclusive, including translators or written documents in the appropriate language. If hosting multilingual groups, consider holding multiple mini-workshops at your event so that each table works at its own pace.
- Leave time for questions! At the end of the experience, explain how participants' contribution will be used moving forward, and how they can continue to be involved.

AGENDA TEMPLATE

TIME	PREP AND PLAN
Time	Introduction Speaker This is a opportunity for you to make announcements and outline topics that will be covered during the workshop.
Materials:	Framing of the Day Speaker Contextualize the experience, introduce hosts and facilitators and outline the goals of the entire experience. Goals and Outcomes <ul style="list-style-type: none"> • The objective(s) of the experience • What deliverables need to be accomplished Setting Expectations <ul style="list-style-type: none"> • Set ground rules including ones that you've devised, such as no cell phone use and/or rules that are collaboratively agreed upon with the participants, for example to keep an open mind
Time	Activity 1 Lead Facilitator Goals of the activity: List the objective of the activity 1.1 Activity Step by step elements of the activity, including bulleted notes, prompts and back up plans 1.2 Activity <ul style="list-style-type: none"> • Step by step elements of the activity, including bulleted notes, prompts and back up plans How you will document/capture activity results (if appropriate):
Time	Break Notes regarding logistics (such as refreshments)
	Activity 3...
	Activity 4...
Time	Closing and Next Steps Speaker Take some time to thank the participants and describe what's to come

MANAGING TIME ²⁰

This tool estimates how much time is needed per activity.



TIPS & TRICKS

Choosing Activities

- Look for activities that can be broken down into multiple steps or are very straightforward.
- If the activity takes several minutes to explain, it probably isn't the best for an engagement with people who don't know each other well.
- An activity that can be broken into steps is easier for people to grasp and to engage with for a longer period of time.
- Choose activities that can be easily documented in different ways.
- With all engagement experiences, it's important to have a backup plan. If people are not receptive to your documentation requests, be sure to have an alternative method to capture their insights.

SOURCES

- 1 Horrigan, John B. and Maeve Duggan. "Home Broadband 2015." Pew Research Center, (2015): 4.
- 2 Mayors Office of Operations. "Social Indicators Report." New York City. (2016): 130.
- 3 Rideout, Victoria and Katz, Vikki S.. "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. New York, NY (2016): 10.
- 4 Horrigan and Duggan, "Home Broadband 2015": 9.
- 5 Mayors Office of Operations, "Social Indicators Reports": 136.
- 6 Governing. "Calculations of 2013 American Community Survey One-year Estimates." Washington D.C. (2018).
- 7 Ibid.
- 8 Rideout and Katz, "Opportunity for All?": 40.
- 9 Ibid: 18.
- 10 Horrigan, John B. "Digital Readiness Gaps." Pew Research Center (2016): 2.
- 11 Callahan, Bill, Crocker, Tianca, and Siefer, Angela. "The Digital Inclusion Coalition Guidebook." National Digital Inclusion Alliance (2018): 6.
- 12 Ibid: 27.
- 13 Nunnally, Brad, Willis, Dan and Unger, Russ. "Designing the Conversation: Techniques for Successful Facilitation." New Riders: San Francisco, CA (2013): 71.
- 14 PNKgo. "About PNK". Retrieved at: pnkgo.com/about-pnk/ (2018).
- 15 McTigh, Jay and Wiggins, Grant P. "Understanding by Design" 2nd Expanded Edition. Association for Supervision and Curriculum Development: Alexandria, Va (2005).
- 16 The Social Planning and Research Council of British Columbia. "Community Engagement Toolkit". Burnaby, BC (2013): 38.
- 17 Ibid: 33.
- 18 Brown, Sunni, Gray, Dave and Macanufo, James. "Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers." O'Reilly Media: Sebastopol, CA (2010): 15.
- 19 Nunnally, Brad, Willis, Dan and Unger, Russ. "Designing the Conversation: Techniques for Successful Facilitation.": 23.
- 20 Kaner, Sam. "Facilitator's Guide to Participatory Decision Making". Joseey-Bass: San Francisco, CA (2014): 145.

ACKNOWLEDGMENTS

Our work on this project, BklynConnect, 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

BklynConnect Fellows

Arvin Azam
Karelyn Phillips
Jonathan Acevedo
Nia Brown
Pelham Van Cooten
Reeba Toby

Brownsville Community Justice Center Fellows:

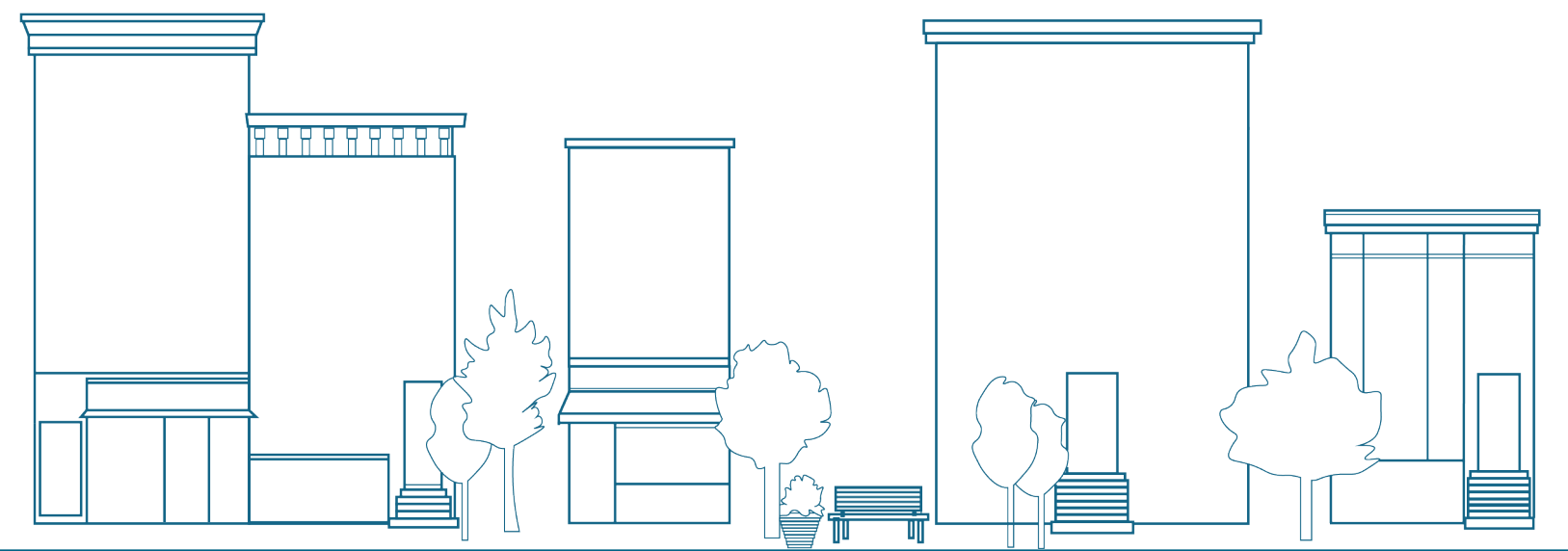
Tahliyah Griffin
Jahtiek McKenzie
Shamash Lima
Nevaeh Rios

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 Heritage House
Brownsville Partnership /Community Solutions
Brownsville Community Justice Center
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
Exalt
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 the CTO
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

NOTES

[illegible]





Brooklyn Public Library is among the borough's most democratic civic institutions, serving patrons in every neighborhood and from every walk of life. Established in 1896, BPL is the nation's fifth largest public library system and currently has nearly 700,000 active cardholders. With a branch library within a half-mile of nearly all of Brooklyn's 2.6 million residents, BPL is a recognized leader in cultural offerings, literacy, out-of-school-time services, workforce development programs, and digital literacy. In a borough of wide economic disparity, where the costs of basic necessities often take priority over spending on cultural enrichment opportunities, BPL provides a democratic space where patrons of all economic standings can avail themselves and their children of cultural and educational programs in a broad range of disciplines.

bklynlibrary.org



TYTHEdesign is a capacity-building firm that uses the lens of design and strategy to support organizations doing good in their communities. By taking a human-centered approach, we help organizations connect with their stakeholders, drive innovation internally, enhance new and existing services, and share their story. Ultimately, our mission is to deepen existing skills and strengthen the impact of the social sector.

www.tythe-design.com

