



# FRANKLIN COUNTY DIGITAL EQUITY COALITION

2021 Insights Report: The Digital Divide

## Refurbishers

### LEAD CONTRIBUTORS TO INSIGHTS REPORT:

PCs for People  
Sage Sustainable Electronics  
Human-I-T

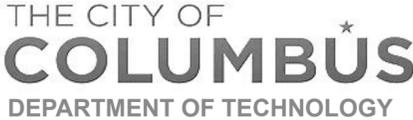
## Refurbishers

### Potential Partner Organizations

After-School Oromo Youth Program  
Columbus Metropolitan Library - Branches  
Columbus Metropolitan Library - Outreach / Senior Services  
Columbus State Community College  
Dress for Success  
Franklin University  
Goodwill Columbus  
Jewish Family Services  
OhioMeansJobs  
Per Scholas  
Reeb Avenue Center  
St Stephen's Community House  
T-Cetra  
Van Buren Shelter  
Westerville Area Resource Ministry

# Report Overview

**LEAD CONTRIBUTORS TO INSIGHTS REPORT:**



**Objective:** *Inform the efforts of the Franklin County Digital Equity Coalition to deliver digital equity.*

**Use Case:** *Guide for funding decisions and implementation plans within the greater Columbus area.*

*This research is meant to be complimentary with external research as it is not a full comprehensive list of insights and solutions.*



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**— VISIT THIS; is this the summary slide**

Qualitative and quantitative research spanned

**8 months, 2 quantitative surveys, 2 affordable internet pilots, 1 online tool prototype, and 12 human centered design sprints**

- **1,839** Franklin County residents, from **40 different zip codes**, surveyed on their internet usage
- **55** residents engaged over an estimated **88** hours of in-depth interviews or co-design sessions
- **298** residents completed enrollment survey for Cbus internet pilots, **70** completed device pickup

## Residents helped us understand and reframe the problem.

### We need fast, high quality internet.

The need for internet extends to households of all socioeconomic levels.



One Use Case Is No More Important Than Another



Unreliable Internet Is Normal

### We need more transparency.

Free or low-cost plans exist, but there is little trust in ISPs in delivering fair and transparent terms.



Responds Well To Greater Transparency



Word-Of-Mouth Conversations Are Highly Influential



With More Partners Involved, Trust Increases



Anything Free Brings Suspicion

### We need affordable internet.

Cost is a top barrier for internet services.



There Is No Standard Price For Connectivity



Residents Deserve Better Internet for What They Pay



# **DIGITAL EQUITY COALITION OVERVIEW**

# Franklin County Digital Equity Coalition

A coalition of 30+ organizations working to achieve digital equity

## VISION

To achieve digital equity through universal residential broadband adoption in order to ensure Franklin County residents have the tools necessary to support education, health, well-being, economic prosperity, and the ability to fully participate in society.

## WORKING GROUPS

- Broadband Affordability and Access
- Device Access
- Digital Life Skills and Technical Support
- Advocacy for Broadband Funding and Policy

## 2021 ACTIONS

- 3 Summer STEM Camp Initiatives
- 2 Neighborhood based Affordable Internet Pilots
- 1 Internet Comparison Tool prototyped and tested.



# Stakeholders

## A coordinated community response and collaboration

### FRANKLIN COUNTY DIGITAL EQUITY COALITION MEMBERS:

- More than 30 public, private, and nonprofit entities
- Working to create long-term solutions to digital equity
- Digital equity is integral to achieving economic, educational, racial, and social equity.
- Learn more at [www.franklincountydigitalequity.org](http://www.franklincountydigitalequity.org)

AECOM  
Affordable Housing Alliance of Central Ohio  
BroadbandOhio  
CAS  
Catholic Social Services  
Central Ohio Primary Care  
City of Columbus  
City of Dublin  
City of Westerville  
CMHA  
Columbus City Council - Office of Elizabeth Brown  
Columbus City Schools  
Columbus Foundation  
Columbus Metropolitan Library  
Columbus Partnership  
Columbus State Community College  
Central Ohio Transit Authority  
Creative Housing|Creative Renovations  
Franklin County Board of Commissioners

Franklin County Department of Jobs & Family Services  
Goodwill Columbus  
Ice Miller  
Jewish Family Services  
JPMorgan Chase & Co.  
Mid-Ohio Regional Planning Commission  
National Digital Inclusion Alliance  
Ohio State University Wexner Medical Center  
One Columbus  
Partners Achieving Community Transformation  
Wexner Medical Center  
Renter Mentor  
Smart Columbus  
TECH CORPS  
The Wells Foundation  
The Women's Center for Economic Opportunity  
Vertiv  
Workforce Development Board of Central Ohio  
YWCA



# Digital Equity Snapshot

## Franklin County is preparing a holistic approach to digital equity.

### DEMOGRAPHICS OF FOCUS

- Low Income Residents
  - Rural and urban within Franklin County
- Underserved Zip Codes
- New Americans
- Senior Citizens
- Students
- Working Adults
- People living with Disabilities

### INTERNET USAGE USE CASES

 Education (Homework, Learning)	 Telehealth
 Work from Home / Workforce Dev	 Research (Finding Deals, Reading News)
 Home Management (Bills, budgeting, meals)	 Well-being (Community Connection, Gaming Entertainment)

### CROSS-SECTOR COLLABORATION\* & CO-DESIGN

- Public agencies
- Private sector companies
- Human Services Agencies
- Non-profits
- Funders / Foundations
- Residents

### INITIAL SOLUTIONS

- Fiber Infrastructure
- Temporary WiFi Pilots
- Internet Comparison Tool
- Resident Ambassadors
- Digital Navigators
- Device Access Donation

### CONNECTIVITY STATUS PERSONAS Deliver access using these models

### DIGITAL SKILLS CONTINUUM Empower residents with skills

### DEVICE ACCESS USE CASES Equip resident with Devices

#### NO ACCESS AT HOME



**No WiFi Naomi**

I don't have home WiFi.

#### HAS INTERNET, NEEDS ARE UNMET



**Need More Nyisha**

I pay a lot to get what I need and I still don't get what I need.



**Skeptical Sara**

I don't trust the large Internet Service Providers.

#### INTERNET NEEDS ARE MET



**Connected Cassie**

I pay a reasonable price for WiFi services that fit the needs of my entire family.



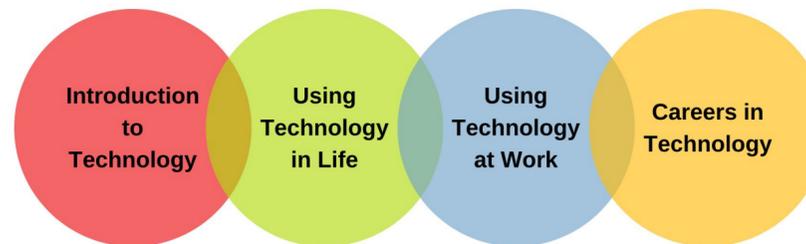
**EBB Brandon**

I pay the minimum and it sets my expectations low.



**Too High Terry**

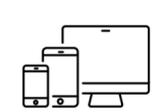
I don't know there are low cost plans.



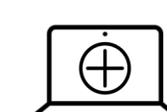
- |   |  |  |   |
|---|--|--|---|
| <ul style="list-style-type: none"> <li>• Devices &amp; Usage</li> <li>• Email &amp; Messaging</li> <li>• Internet Basics</li> <li>• Safety &amp; Privacy</li> </ul> | <ul style="list-style-type: none"> <li>• Telehealth</li> <li>• Social Media</li> <li>• Banking</li> <li>• Community Resources</li> </ul> | <ul style="list-style-type: none"> <li>• Customer Service</li> <li>• Productivity Software</li> <li>• Communication Platforms</li> </ul> | <ul style="list-style-type: none"> <li>• Career Exploration</li> <li>• Education/Training</li> <li>• Credentials</li> <li>• Employment Opportunities</li> </ul> |
|---|--|--|---|



Don't have device



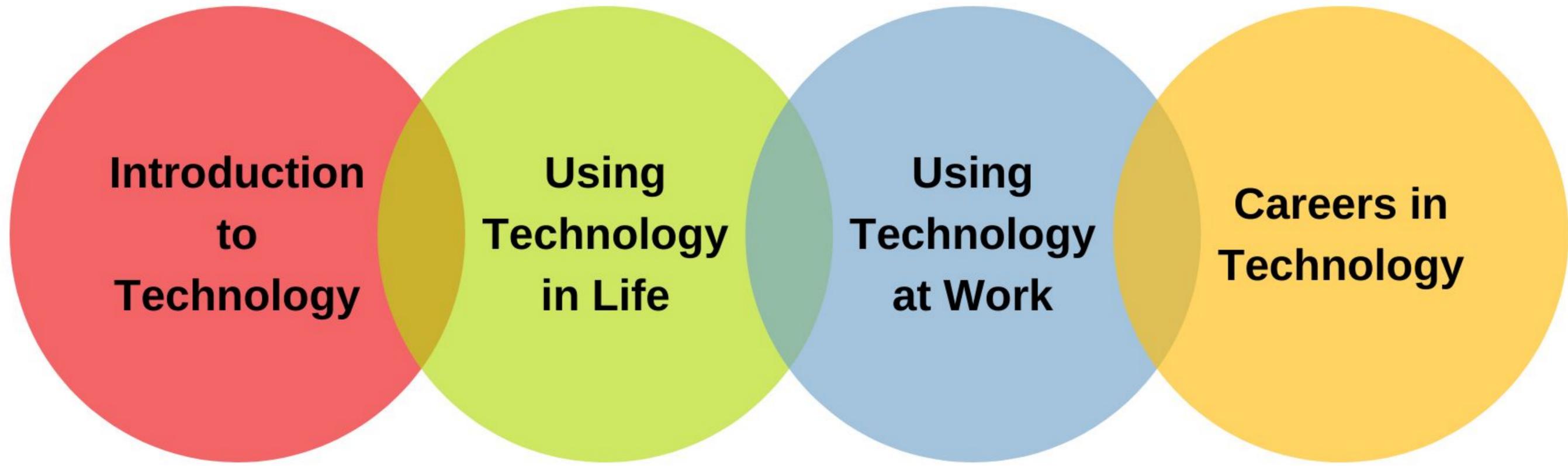
Need more devices for household



Need enhanced features



Need different device type



**Introduction to Technology**

- Devices & Usage
- Email & Messaging
- Internet Basics
- Safety & Privacy

**Using Technology in Life**

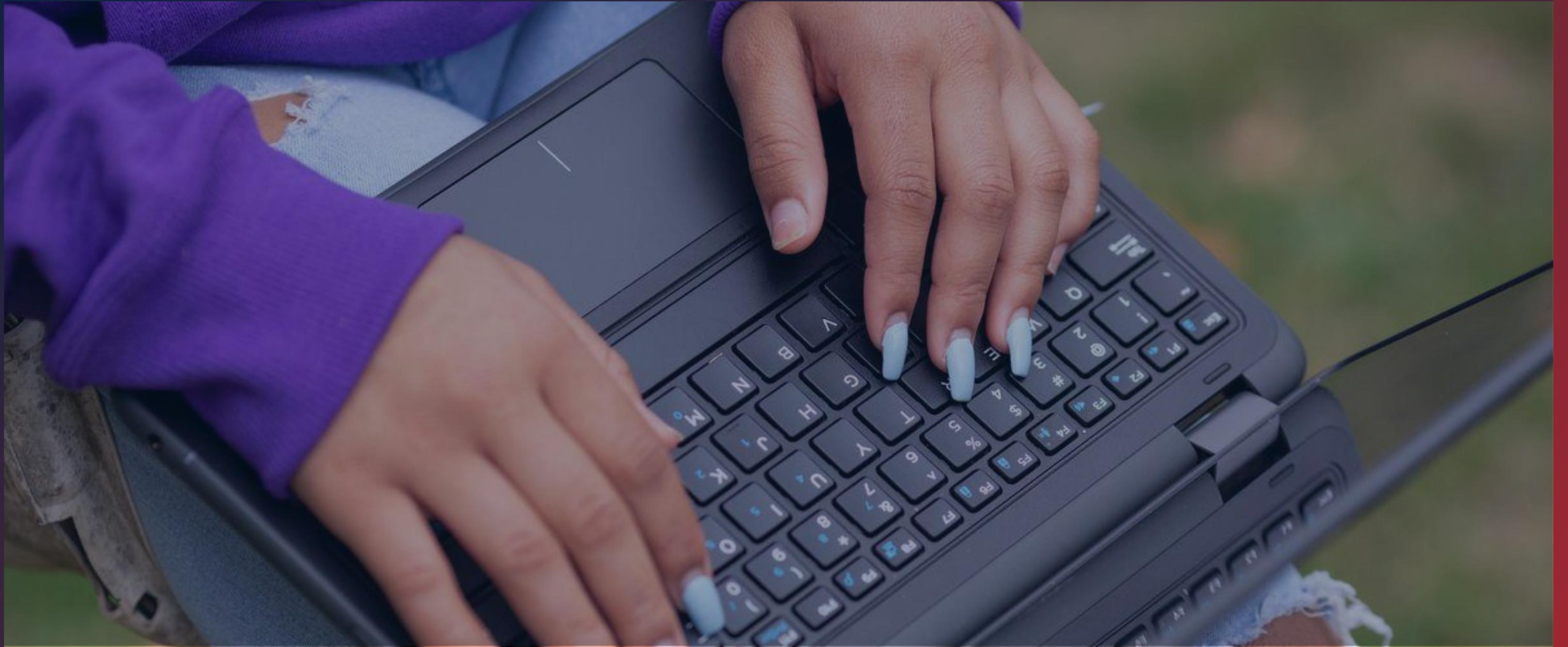
- Telehealth
- Social Media
- Banking
- Community Resources

**Using Technology at Work**

- Customer Service
- Productivity Software
- Communication Platforms

**Careers in Technology**

- Career Exploration
- Education/Training
- Credentials
- Employment Opportunities



# **PROBLEM STATEMENT & SCOPING**



# Cbus WiFi Pilots

1. Draft initial features of pilots to **inform RFP**
  - Received X responses
2. Review proposals, vet and **select vendors**
  - Selected two
3. Work with vendor to **install technology**
  - On roof of Reeb Avenue Center and Mount Vernon Plaza

# Cbus WiFi Pilots

**4. Test quality** of service (speed, reliability)

- Many, many speed tests.

**5. Setup implementation routines for monitoring quality**

- Visits to rooftops and in van around town

**6. Measure impact**

**7. Track industry trends** to inform scaling and long-term implications.

**8. Change course** if necessary.

# Long-term Solution

## 5. Build a **Business model**

- Define scale of implementation
- Project timeline for build-out
- Research need across city
- Consider household numbers, income levels

## 6. Issue **RFP**

- Assess business models proposed
- Consider viability of scale, impact
- Assess financial and legal risks

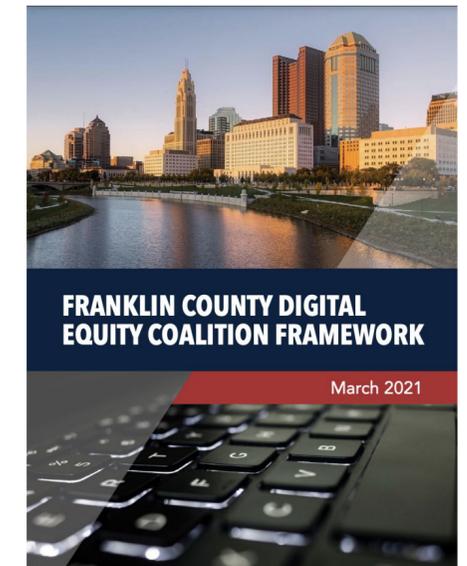
## 7. **Review proposals**, vet and select vendors

# Problem Statement

A Digital Divide Exists In Our Neighborhoods Negatively Impacting Access To Education, Healthcare, Employment And Well-Being.

According to the **Franklin County Digital Equity Coalition Framework:**

- 108,000 of Franklin County's 522,000 households (18.8%) did not have home internet subscription.
- About 50,000 households in the county (9.6%) had internet access only through a cellular data plan
- 48,000 Franklin County households had no form of internet access in their home
- Residents 65 and older were nearly three times more likely to lack a computer or home internet subscription than were residents under the age of 65
- 11.3% of Hispanic/Latino and 11.8% of Black/African American residents lack a computer or home internet subscription

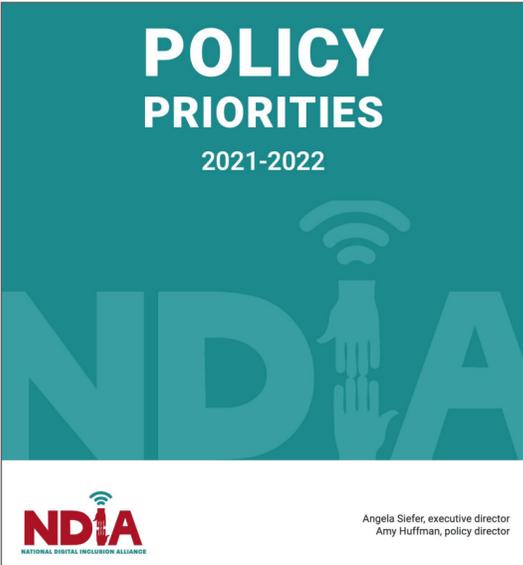


# Scoping the Problem

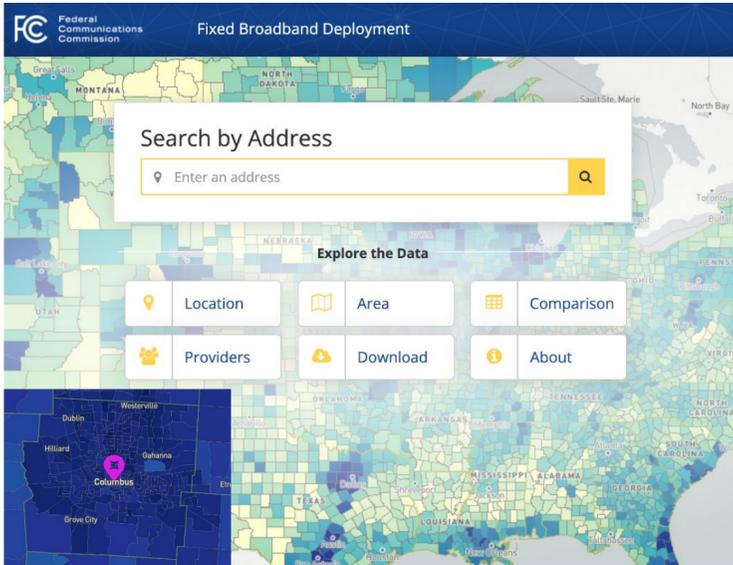
## National studies articulate the vast nature of the Digital Divide.

*One out of five Franklin County residents do not have a cable modem, digital subscriber line (DSL), or fiber Internet accounts in 2019.*

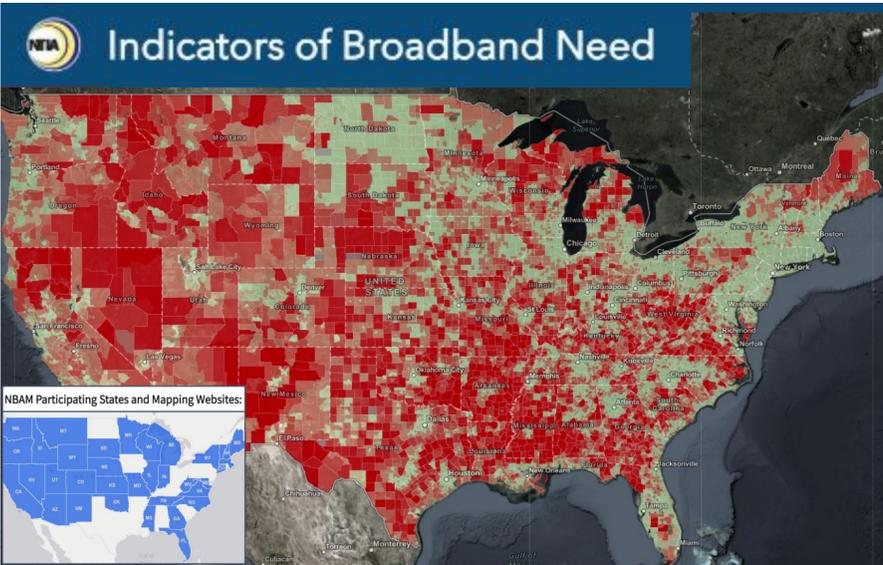
- The American Connectivity Program (ACP) is a \$14B broadband subsidy that starts in 2022.
- The recommended minimum WiFi speeds by 2030 will be 100mbps for download and 25mbps for upload.
- Many tech companies are improving their commitment to digital inclusion, however, progress is slow.
- A 2021 federal infrastructure law dedicates \$65B to broadband infrastructure over the next 5 years.



NDIA Report



Federal Communications Commission Research



NTIA Research



World Benchmark Alliance Research

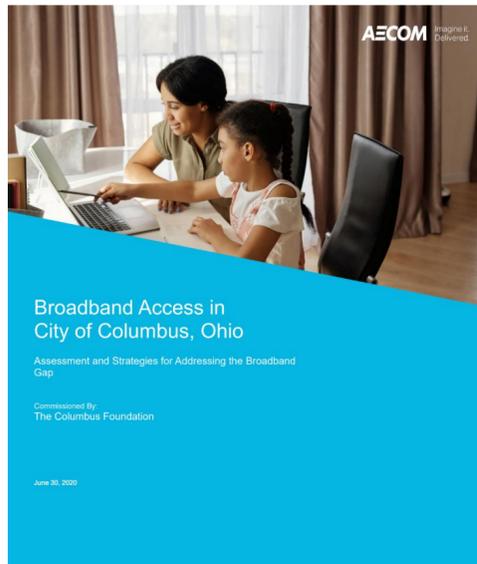


# Scoping the Problem

Local initiatives aim to create prosperity for our entire community, and make us more resilient in the face of future challenges.

*There is a correlation between internet access, school online education system access, and poverty levels.*

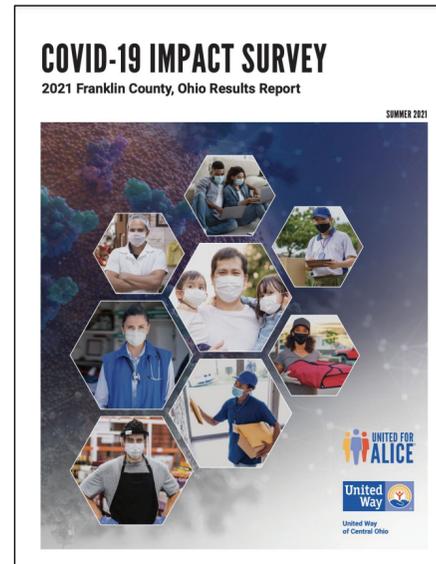
- Even in economically challenged neighborhoods, one or more high speed internet providers is available for consumer internet services.
- In Franklin County, less than 44,000 households (8%) are subscribed to Emergency Broadband Benefit (EBB).
- The city of Columbus has built over 1,000 miles of fiber infrastructure.
- The Recovery and Resiliency Advisory Committee estimates 77,000 poorly connected Franklin County households in low-income neighborhoods.



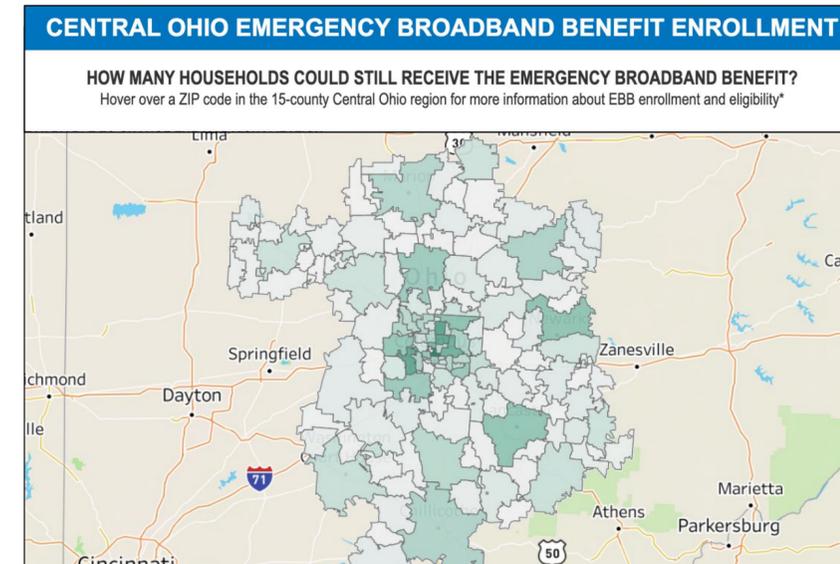
AECOM Report



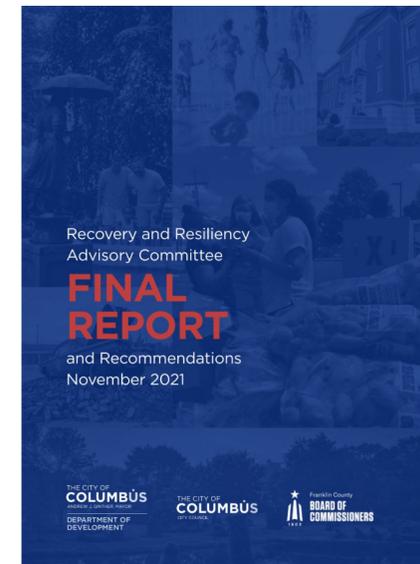
MORPC Research



United Way Impact Survey



MORPC EBB Data



Resilience Report



# Scoping the Problem

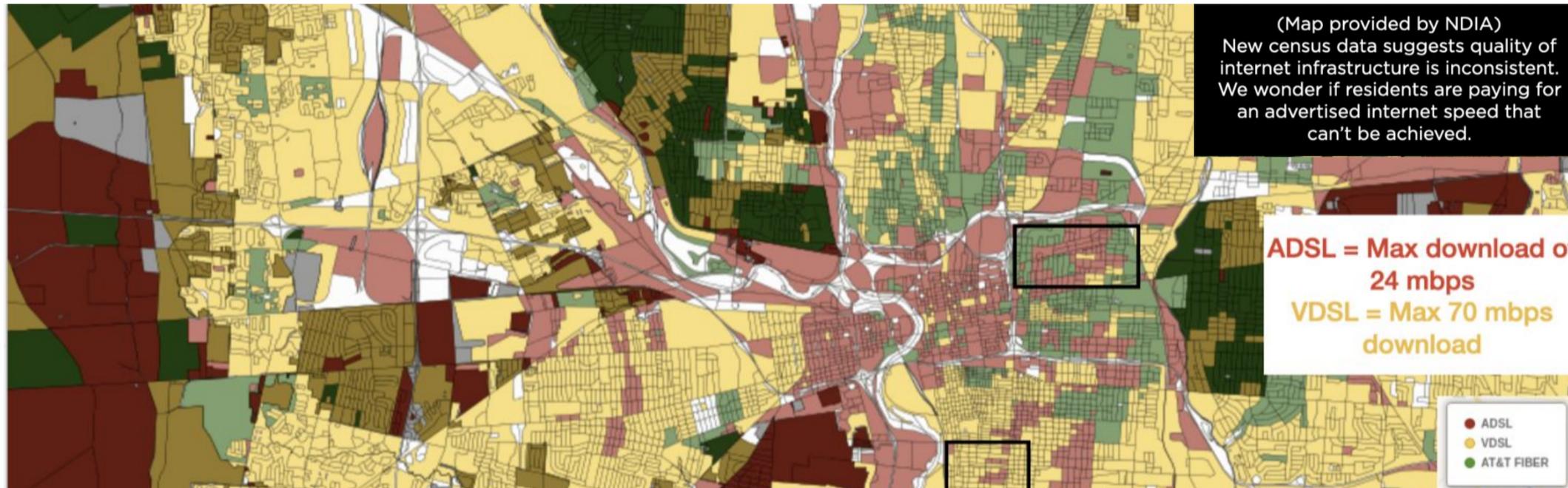
## Systemic Barriers Inhibit Access for Low-Income Residents.

### DIGITAL REDLINING

- ISPs target high-income neighborhoods to update their infrastructure.
- Digital Redlining occurs when low-income areas are thereby affected by having limited WiFi speeds.

### TIER FLATTENING

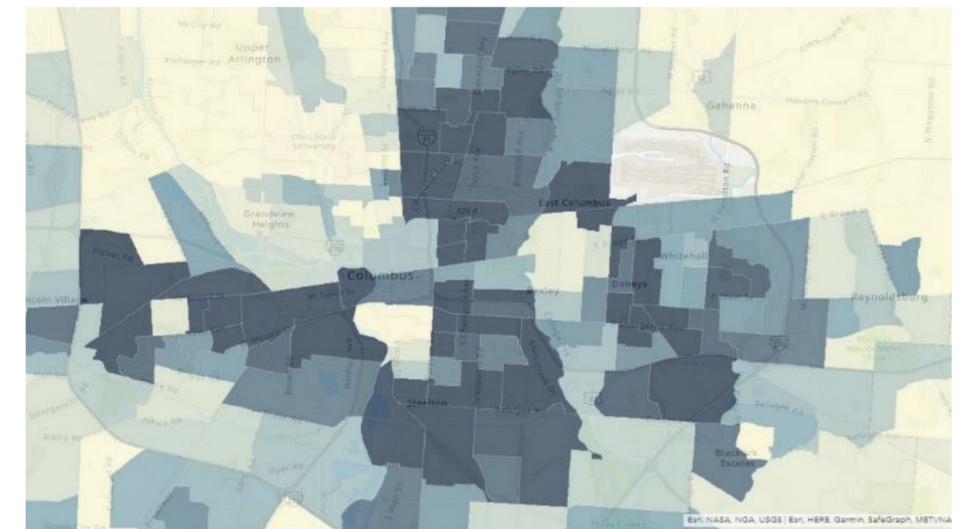
- Large ISPs converted many of their lower-speed infrastructure to the same price.
- This tier flattening gives residents with poor infrastructure a low quality-to-price value.



Fastest AT&T Wireline Internet technology (Census 2020)



Poverty Demographics (ACS 2020)



Percent of Households with no internet access (ACS 2020)

# Scoping the Problem

A survey in partnership with Franklin County Jobs & Family Services further articulated use cases and needs.

## DESIRABILITY

**77%** say internet access is a top priority alongside rent, food and transportation

Only **3%** indicated they don't need home internet

**95%** use the internet in their home daily

## USAGE

The most popular uses for internet are **paying bills, searching information, and tasks for work.**

Household size of **2.4** people using WiFi.

**21%** have someone outside household that depends on their internet connection

## SAMPLE SIZE & METHODOLOGY

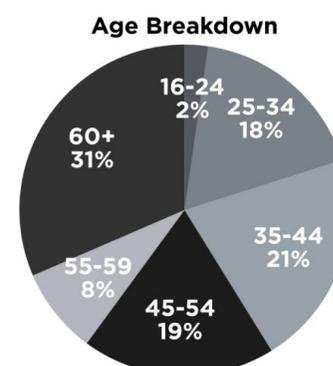
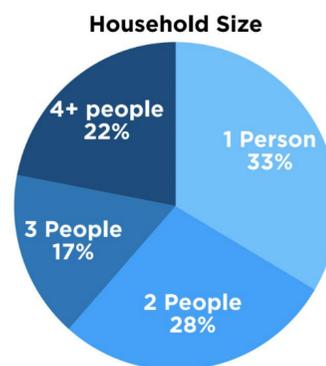
- 1839 residents that receive benefits completed the survey
- Survey distributed via email to 120,000 individuals; 1.5% responded.
- Oct. 7th, 2021-Oct 15th, 2021
- There is a 95% confidence level (2.5% margin for error).

## ZIP CODES

We received responses from 40 zip codes in the Central Ohio, including::

- 8 Opportunity Neighborhoods of City of Columbus
- 5 Poverty Blueprint areas of Franklin County

## WHO COMPLETED SURVEY



*“While I am not tech savvy, I do need to have at least basic internet/WiFi in my home.”*  
 – Chris







# **HUMAN-CENTERED DESIGN APPROACH**

# Local Activation

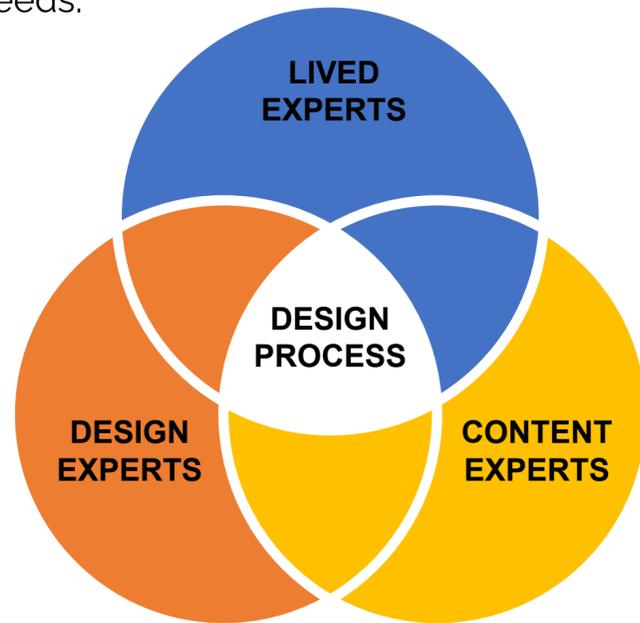
## A partnership to deliver the multiple facets of human-centered design

### THE COLUMBUS FOUNDATION

Assisting in strengthening and improving our community for the benefit of all its residents.

#### Role in the Work

- Understanding insights that build empathy around issues related to the digital divide.
- Delivering an empathy-based approach to inviting residents to define community needs and co-design new ideas to address those needs.



Approach developed by:



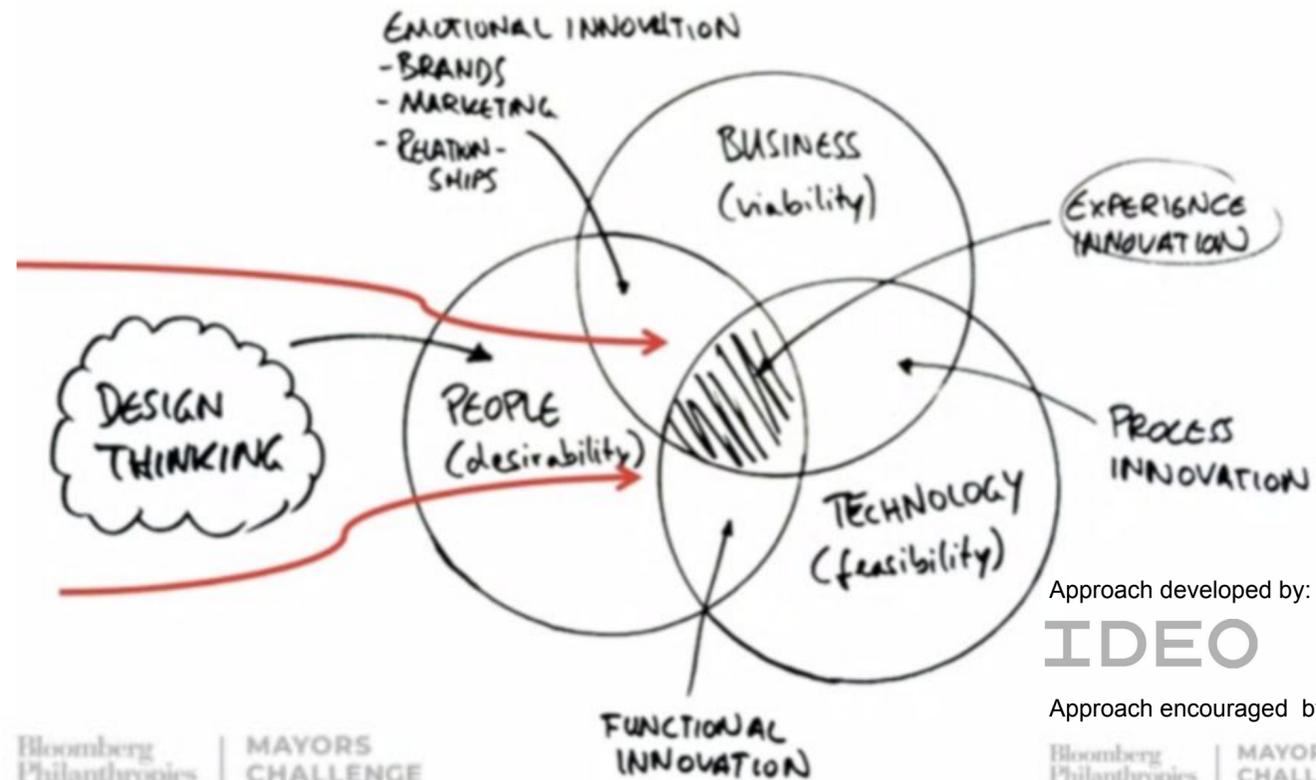
DESIGNING FOR SOCIAL SYSTEMS

### SMART COLUMBUS

To anticipate and advance what is new and next at the intersection of technology and community good.

#### Role in the Work

- Researching, designing/building and testing human-centered products and services to address the digital divide.
- Delivering a series of iterative design sprints focused on user testing and prototyping in collaboration with residents



Approach developed by:



Approach encouraged by:



SHARED MINDSETS



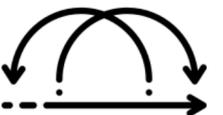
IMPACT DRIVEN



CREATIVE



HUMAN-CENTERED



ITERATIVE



COLLABORATIVE





**APPENDIX**



# Global Urban Innovation

## Columbus was named a Mayors Challenge Champion City.

### TEAM

Participating on behalf of Mayor Ginther:



### HIGHLY SELECTIVE

631 cities from around the world submitted applications.

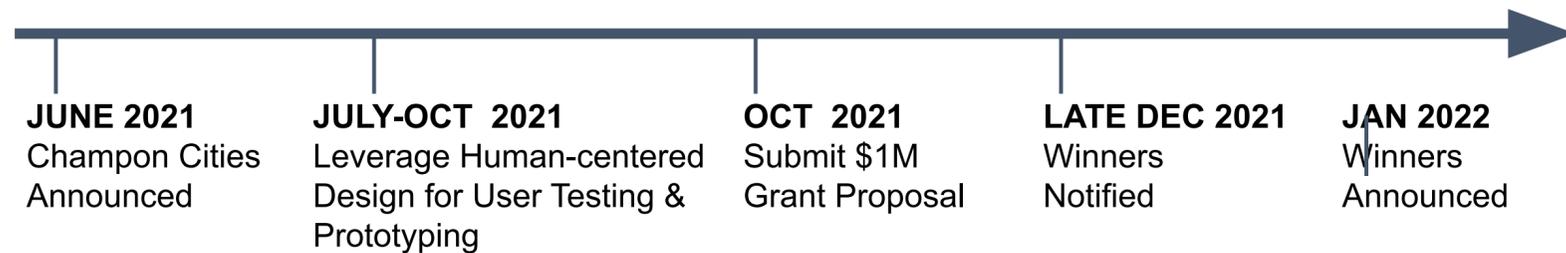
Of 50 selected cities, 15 will win \$1 million each—to help them implement their breakthrough ideas and, ultimately, to spread their ideas to other cities around the world.

### SUPPORT PROCESS

Over the course of 4 months, the city was coached by an advisor on how to make our research human-centered, thorough, and impactful.

In 2020, Bloomberg Philanthropies invested in 170 countries around the world and over 800 partner cities.

### TIMELINE



### URBAN INNOVATION IN CITIES:

Out of the 50 Champion Cities of the 2021 Global Mayors Challenge, 16 are in North America, including:

- **Akron, Ohio:** Taking lessons from how we train medical students to support Black entrepreneurs
- **Baltimore, Maryland:** Deploying a citywide, coordinated system to support Black owned businesses
- **Birmingham, Alabama:** Investing in the next generation of food entrepreneurs
- **Columbus, Ohio:** Providing last-mile Wi-Fi access to underserved neighborhoods
- **Durham, North Carolina:** Building a team to help residents access untapped federal resources and support
- **Guadalajara, Mexico:** Creating a “citizen-safety index” to combat violent crime
- **Hermosillo, Mexico:** Providing new employment opportunities for women in the circular economy
- **Lansing, Michigan:** Launching cross-sectoral partnerships to halt learning loss in children
- **Long Beach, California:** Using the city’s power to bring transparency to the gig economy
- **Louisville, Kentucky:** Creating the diverse tech workforce of the future
- **New Orleans, Louisiana:** Bringing a trust-building lens to the delivery of public services
- **Newark, New Jersey:** Reducing crime by focusing on the city’s most persistent offenders
- **Paterson, New Jersey:** Providing proven, on-demand treatment to those struggling with opioid addiction
- **Phoenix, Arizona:** Deploying “career mobility units” to support job-seekers
- **Rochester, Minnesota:** Creating a pathway for women of color into the growing, high-paying local construction field
- **San Jose, California:** Bolstering the college-support pipeline for marginalized families

# Who We Engaged

## Residents helped co-design and test ideas.

- **1839** Franklin County residents surveyed on their internet usage (from 40 different zip codes)
- **55** residents engaged over an estimated **88** hours of in-depth interviews or co-design sessions
- **298** residents completed enrollment survey for Cbus WiFi pilots, **70** completed device pickup

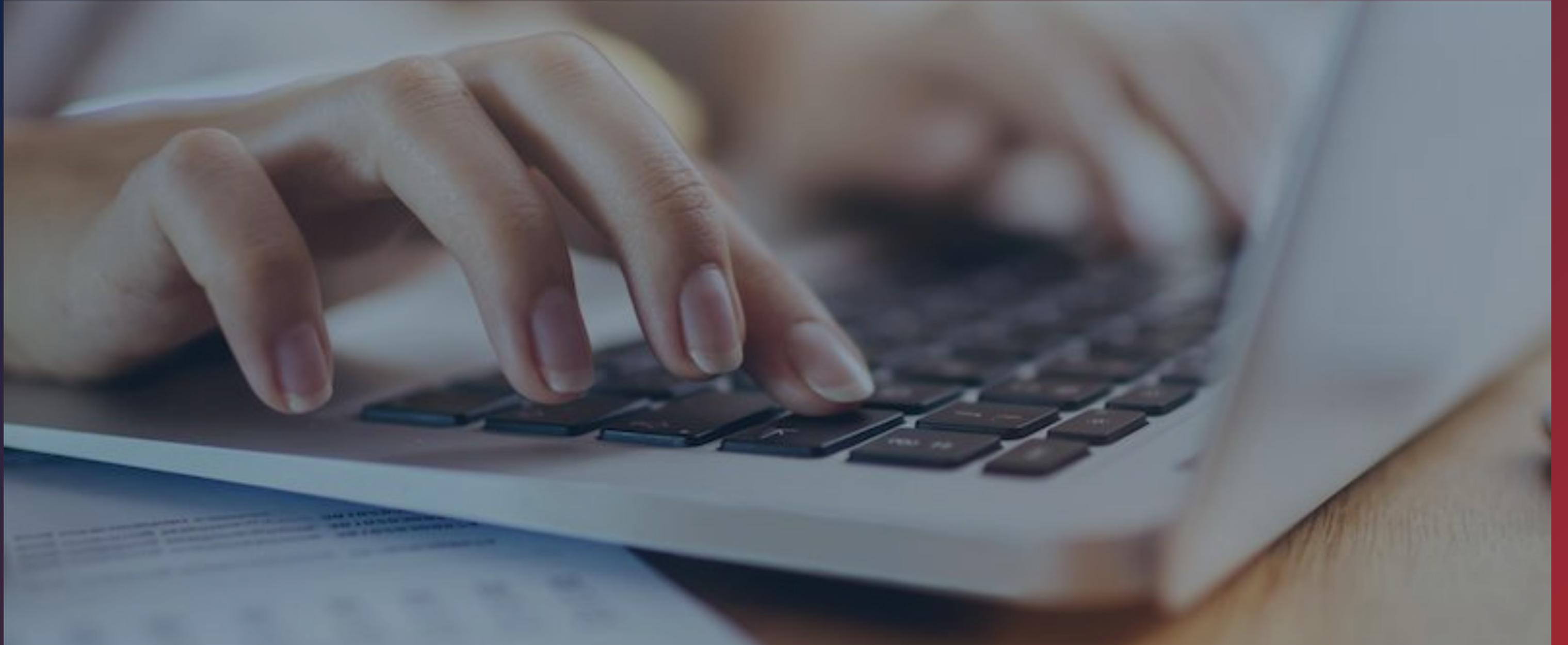
### RESIDENT ENGAGEMENT

- All residents engaged live in City of Columbus Opportunity Neighborhoods:
  - representing ~77,000 total households in Franklinton, Hilltop, Linden, Near East, Northland, Near South, Southeast, and Northeast
- Households represent varying situations of connectivity including:
  - Dependency on internet for work/school
  - Using EBB
  - Looking to switch providers
  - Late on payments or close to being cut off

### USER TESTING & PROTOTYPING

- 2 Internet service pilots were deployed to 53 households; in-depth feedback from 5 residents. (As of 12/14/2021)
- Cbus WiFi services were beta-tested before launch to an anticipated 600 residents.
- A prototype of the Internet Comparison Tool was developed with in-depth feedback from 12 residents.
- Prototype concepts were informed by co-design sessions with residents.
- Qualitative and quantitative research spanned over 8 months.
- Insights were synthesized across 12 design sprints (workstreams).

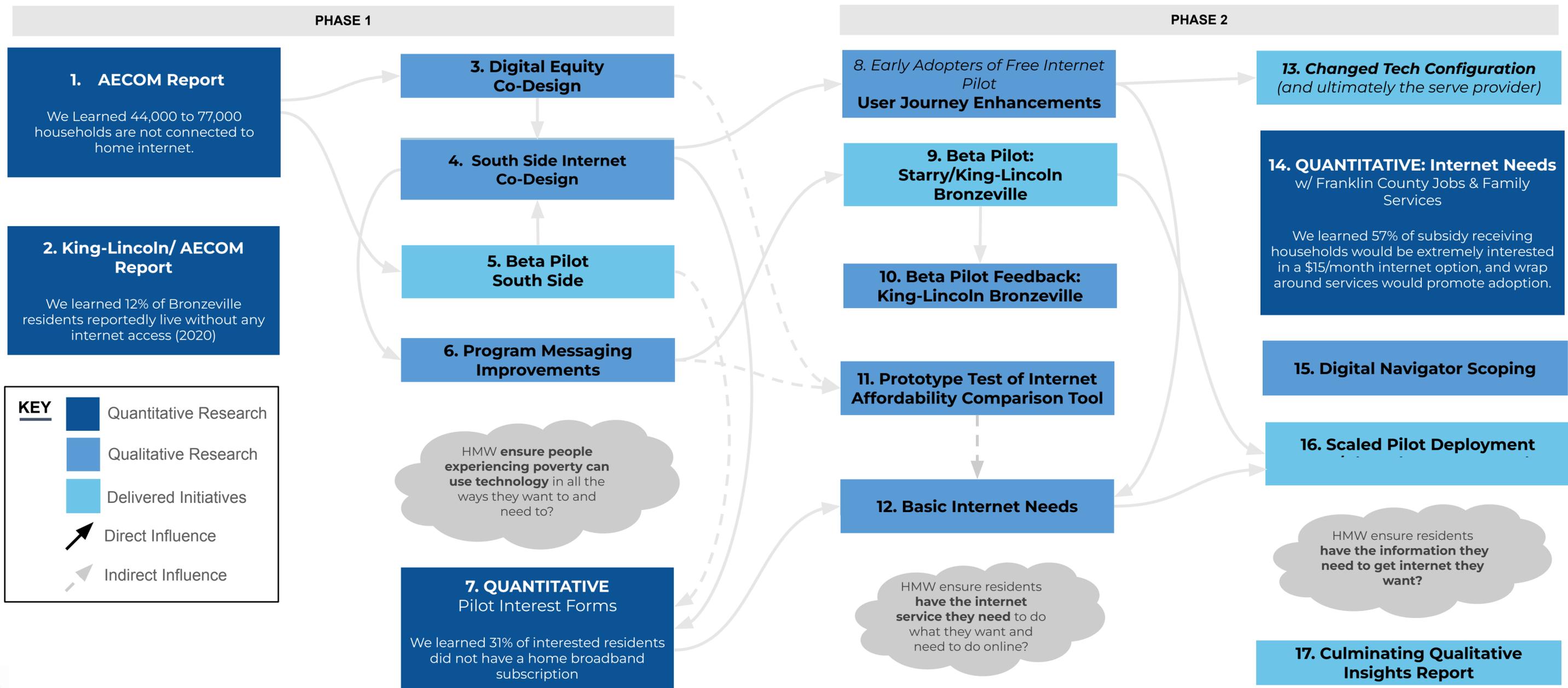




# **WHAT WE LEARNED**

# 2021 Learning Map

## Insights were informed by and validated across design sprints.

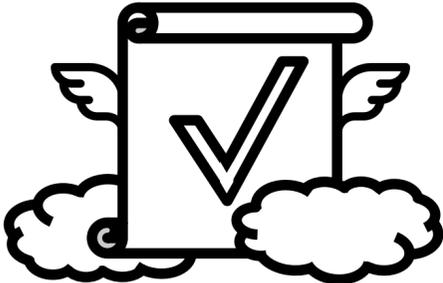


# Key Insights

## What We Heard From Residents



One use case is no more important than another



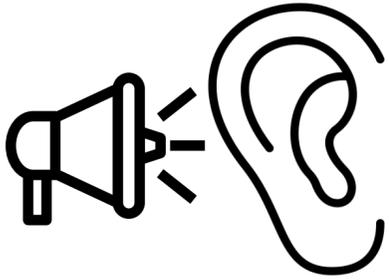
Residents respond well to Greater Transparency



With More Partners Involved, Trust Increases



Anything Free brings Suspicion



Word-of-Mouth Conversations are Highly Influential



# Key Insights

## One Use Case is No More Important than Another



All residents deserve access to support education, health, well-being, economic prosperity, and the ability to fully participate in society.

### GOVERNMENT'S ROLE

"I wouldn't feel bad if the local government was involved... They talk about it like it's an extra expense. COVID proved it's not."

– Cora

Sprint 4

### TELEHEALTH & JOB TRAINING

"I have doctors appointments online and am doing a workforce training through my job."

– Kyra

Sprint 6

### BASIC LIVING REQUIREMENTS

"Everyone should qualify because it's becoming a primal need to have internet. Internet allows people to live."

– Jennifer

Sprint 6

### WORK FROM HOME

"If I actually want to make money, I need [my WiFi] to work."

– Megan

Sprint 10

### USE CASES



Education  
(Homework, Learning)



Telehealth



Work from Home /  
Workforce Dev



Research  
(Finding Deals,  
Reading News)



Home Management  
(Bills, budgeting, meals)

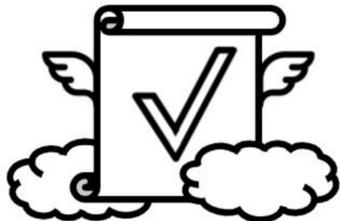


Well-being  
(Community Connection,  
Gaming Entertainment)



# Key Insights

## Nuances in Messaging and Greater Transparency are Beneficial



*Residents have been hurt in the past by unclear messaging including hidden fees, extended contracts, unknown costs and limited service.*

### NO COST INSTEAD OF FREE

*“Device is unclear on what exactly it is, I didn't immediately think [modem/router].”*

*– Devin*

Sprint 6

### FUNDING PILOTS

*“If it's free, where is the funding coming from and why do I qualify?”*

*– Jen*

Sprint 6

### DEFINING GEOGRAPHY FOR PILOTS

*“I would like to know why you chose the neighborhood.”*

*– Taylor*

Sprint 6

### RESEARCHING TERMS

*“I'd have to do some research, read reviews.”*

*– Cierra*

Sprint 6

### MESSAGING CONSIDERATIONS

Clear terms and conditions

Communicate all fees and potential costs

Clarification and rationale for eligibility

Sensitivity to messaging of “free”

Transparency of funding source



# Key Insights

## With More Partners Involved, Trust Increases.



*A community-based approach leveraging organizations that residents trust will increase adoption.*

### SCHOOLS

*“I feel better when I see that they are working with school districts and the library.”*

*– Delisa*

Sprint 6

### LIBRARY

*“Libraries have information catered for people and no ulterior motives.”*

*– Devin*

Sprint 6

### COALITION APPROACH

*“Coalition of organizations would be best because that means everyone is coming together as a common good.”*

*– Jennifer*

Sprint 6

### GRASSROOTS ORGANIZATIONS

*“I really respect Food Soldiers. They are doing a really good job in the community. I would trust information from their people.”*

*– Elizabeth*

Sprint 4

### TRUSTED LOCAL BRANDS



# Key Insights

## Anything Free is Not Believable.



*Just because a service is free does not mean it will be readily adopted. Residents are skeptical of free services.*

### LOW QUALITY

*"[Free] would be great. My only concern would be how reliable and consistent it would be."*

*– Branden*

Sprint 2

### HIDDEN TERMS

*"If something is free, I want to look for hidden messages, quality, and how long is it free."*

*-Juliana*

Sprint 6

### ELIGIBILITY

*"I like no hidden fees and no cost [better than 'free'] because it eliminates anxiety of any possible curveballs."*

*– Devin*

Sprint 6

### LACK OF CLARITY

*"If you are giving me more free stuff in addition to the tablet, what are you taking from me?"*

*– Jenn*

Sprint 6

Will you be monitoring and selling my data?

Will I be surprised later by high cost services when trial ends?

Who did you select who receives free service? Why am I more deserving than others?

### QUESTIONS POSED OF FREE SERVICES

Is it a lower quality than fee-for-service option?

What is the catch?



# Key Insights

## Word-of-Mouth Conversations are Influential.



*Peer-to-peer resident advocacy plays a key role in marketing a new service like internet connectivity.*

### NEIGHBOR RELATIONS

*"In my neighborhood, our neighbors, we all talk a lot. We trust each other. What's going on in people's houses. We trust each other."*  
– Stephanie

Sprint 4

### POWER OF NEGATIVE REVIEWS

*"My neighbors told me that [my current provider] was garbage. They are kinda retired and they know a lot about the neighborhood."*  
– Tara

Sprint 10

### SHARING SERVICES

*"I recommended my brother a new service because he was sharing the WiFi."*  
– Tina

Sprint 10

### TRIAL BY FRIEND

*"My friend and I will see how this internet is. I know he has a laptop and so I will see what he says."*  
– Michael

Sprint 10

### TRUSTED COMMUNICATION CHANNELS

Neighbors

Friends & Family

Caseworkers of Trusted Organizations

Facebook Groups of Peers

Advocates for Community Services (like Food Soldiers Group)



# Guiding Question

## HOW MIGHT WE ...

Equitably close the Digital Divide by providing fast and affordable internet with co-designed engagement programs, increasing residential connectivity in low-income neighborhoods.

## PROBLEM FRAMING

We seek to solve three problems simultaneously:

- unaffordability of residential internet,
- inadequate speed of affordable internet,
- an estimated 48,000 low-income Columbus and Franklin County families living without residential internet.

## MARKET SIZING

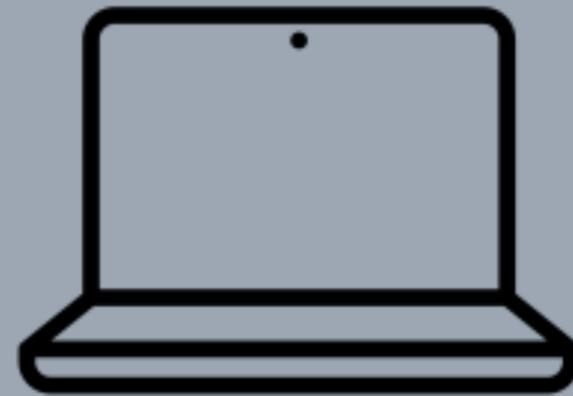
We surveyed low-income residents and found:

- 76% believe home internet is as vital as rent, food, and transportation.
- 88% without home internet indicated cost as a top barrier;
- 50% of total respondents indicated experiencing frequently unreliable service.
- Only 10% pay less than \$25 a month.
  - A 2018 NDIA report cited Internet Service Providers (ISPs) eliminated cheaper rates forcing customers into higher-cost plans for the same quality.

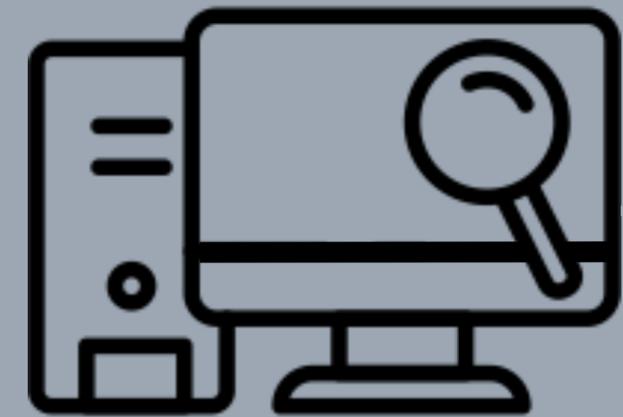




Connectivity



Device Access



Digital Life Skills

## **3 PILLARS OF DIGITAL EQUITY**

A close-up photograph of a network switch or patch panel. Several Ethernet cables are plugged into the ports. The cables are in shades of blue, white, and yellow. The background is dark and slightly blurred, showing more of the network equipment.

# Connectivity & Affordability

Insights, Personas, Barriers, and Solutions

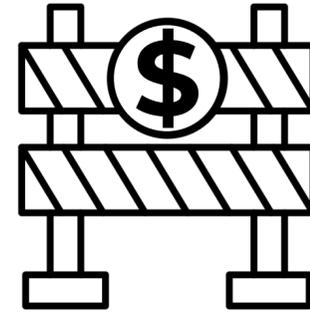
# Insights From Residents



Unreliable Internet is Normal



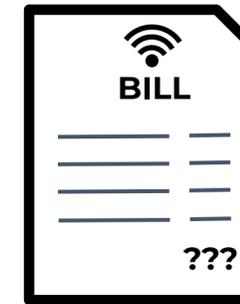
There is Little Trust with ISPs



Cost is a Top Barrier



The need for adequate internet is All-encompassing



There is No Standard Price for Connectivity



Residents Don't Know they Deserve Better

## PRIMARY CHALLENGES

- Access
- Quality
- Price/Affordability
- Awareness
- Government Aid
- Branding/Collaboration

## CURRENT INTERNET PROVIDERS

- Starry
- T Mobile
- Wow!/Atlantic Broadband
- Spectrum
- AT&T
- Cbus WiFi

## USER GROUPS / PERSONAS

- Highly Disconnected
- Data Plan Only
- Low-Income Plan
- Paying Too Much
- Needs Higher Speeds
- Connected and Satisfied

# Insights From Residents

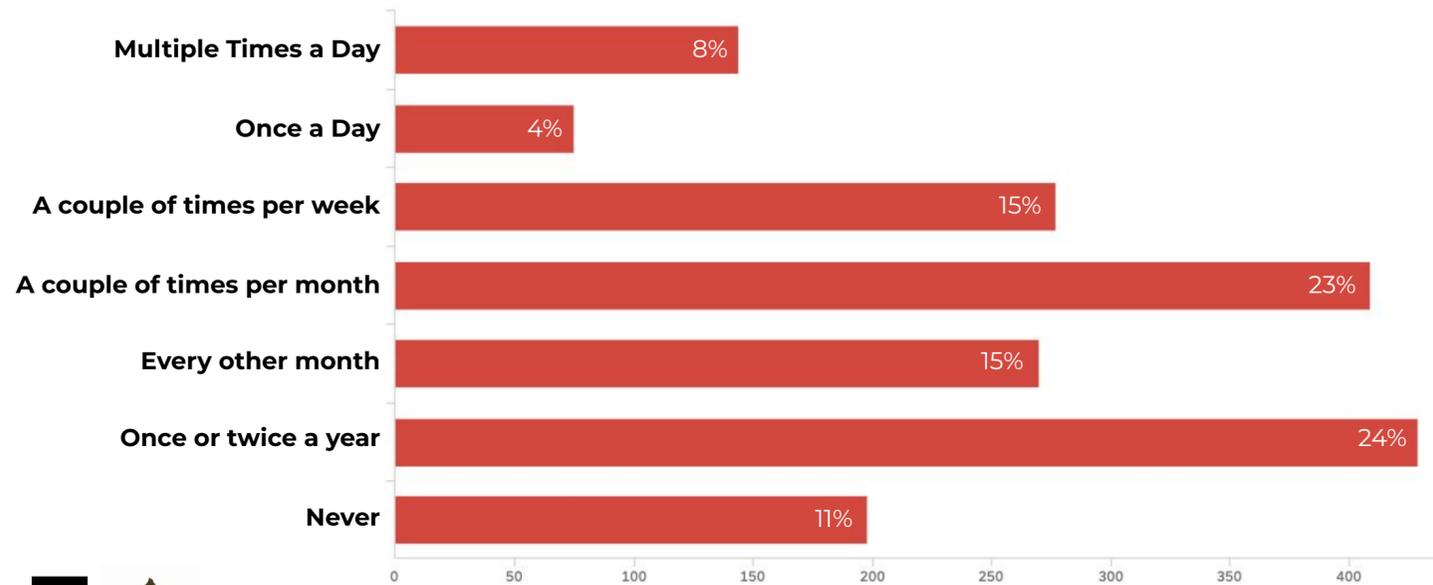


## Unreliable Internet is Normal

### Quantitative

- 40% consider their WiFi too slow or unreliable.
- 27% experience unreliable internet multiple times a week.

Q27 - How frequently do you experience unreliable internet in your household?  
(Such as no connection or service so slow you can't use it)



### Qualitative

- A common thread between all user personas is the need for faster service.
- Reliability is key to quality internet service.



*"I do a gateway reset every day because my devices start lagging."*

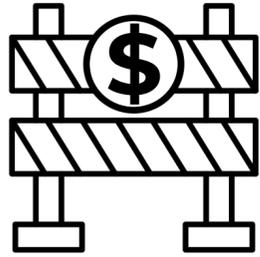
– Brooks



*"From the numbers it seems like I'm not getting a good quality at all."*

– Tara

# Insights From Residents

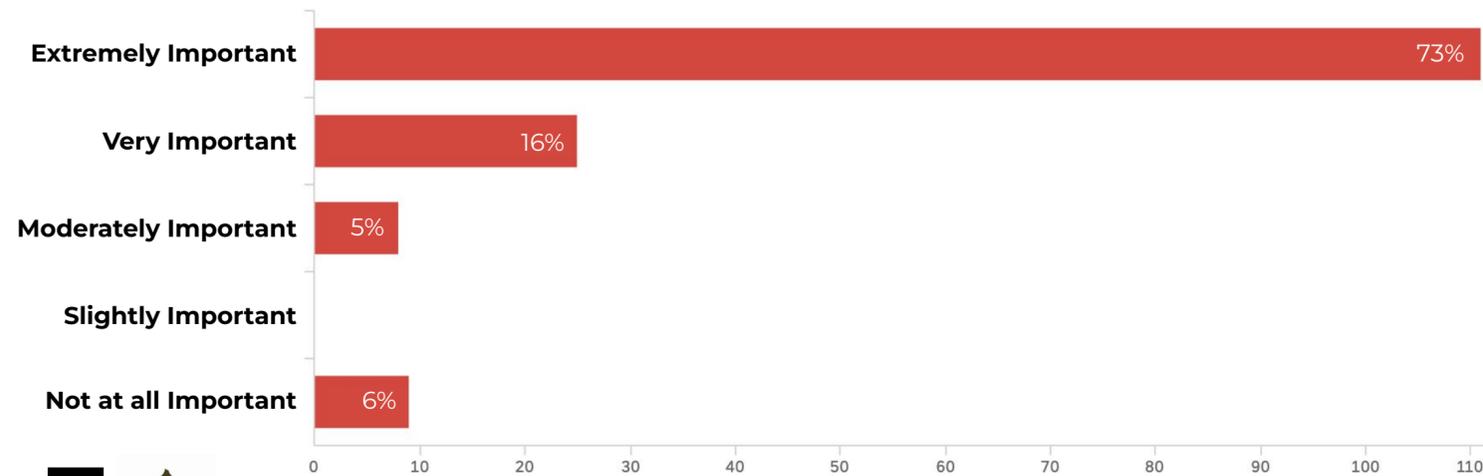


## Cost is a Top Barrier

### Quantitative

- Of people without home WiFi, 89% mention cost as a very important factor at the least.
- For 25% of Franklin County Residents living on less than \$35K annually, \$60 per month for WiFi is at least 2% of their total income.

Q11 -How Important is cost for why you do not have home internet/WiFi? (n=153)



### Qualitative

- Frustration occurs when cost and quality do not feel aligned.
- There is no standard price for accessing the internet.



Don't Know Denzel

*“they keep raising the prices. It's not really getting any better. The prices don't really match the quality.”*

– Mey

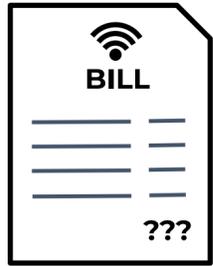


Don't Know Denzel

*“If I am paying like 12 dollars shy of 100, that's not right... Doesn't matter who I have or how high of a speed I get, it still cuts out.”*

– Taylor

# Insights From Residents



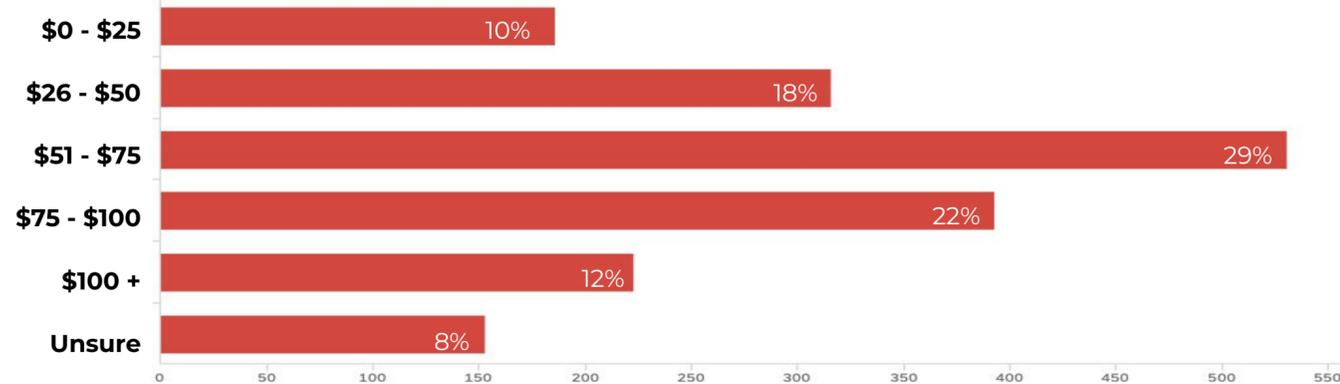
## There is No Standard Price for Connectivity

### Quantitative

- Of the 298 Pilot Program Enrollment Survey Submissions:
  - 31% indicated they did not have residential internet
  - And the rest paid...



Q23 - How much do you currently pay for home WiFi access each month?



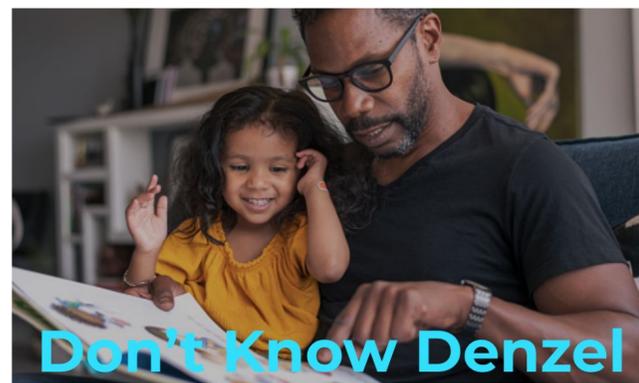
### Qualitative

- Prices for WiFi range from \$0 (EBB) to \$176 a month
- Household size does *not* necessarily correlate to monthly WiFi expenses.



*“We pay \$176 a month just for internet. I lost my job so we can’t afford it, but I still need it for [my GED] and for applying for jobs.”*

– Tamara



*“During COVID, my work hours went down... I learned about and applied for SNAP. It got me reduced internet (\$10/month).”*

– Cierra



# Insights From Residents

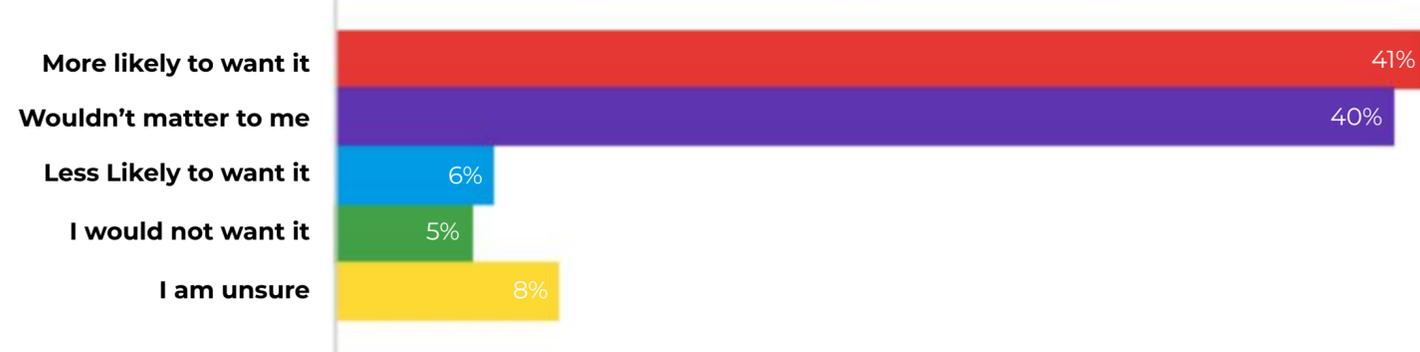


## There is Little Trust with ISPs

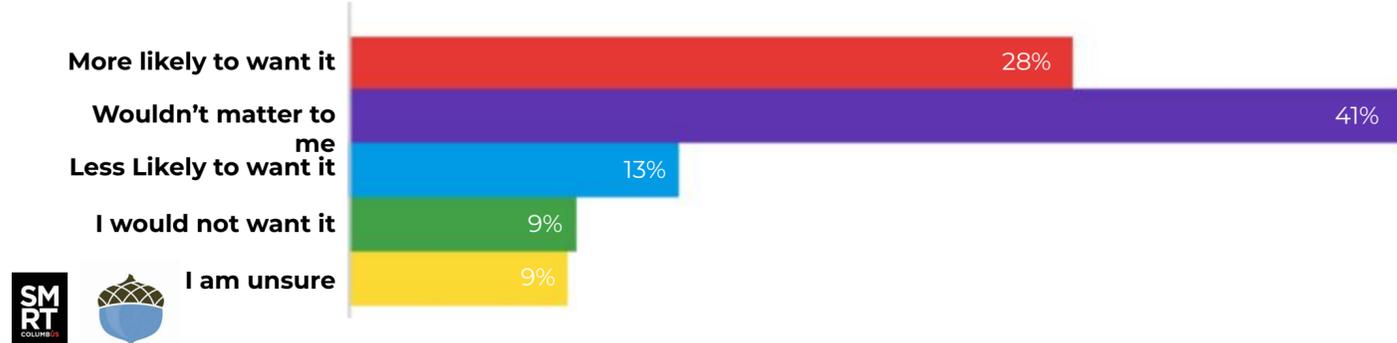
### Quantitative

- 50% of beta pilot research participants were recruited by Columbus City Schools (A trusted organization)

Q7f -How might a group of trusted Community organizations providing a WiFi option impact your decision to join?



Q7e -How might the Government providing a WiFi option impact your decision to join?



### Qualitative

- Distrust with ISPs stems from greed and a lack of transparency
- Distrust with the government stems from privacy concerns



*“Money grubbing scum... I don't like [my old service provider]. I don't like them”*  
– Jill



*“I'm getting a third of what I'm paying for. That sounds like something they would do, larger corporations are always trying to finesse you.”*  
– River

# Insights From Residents

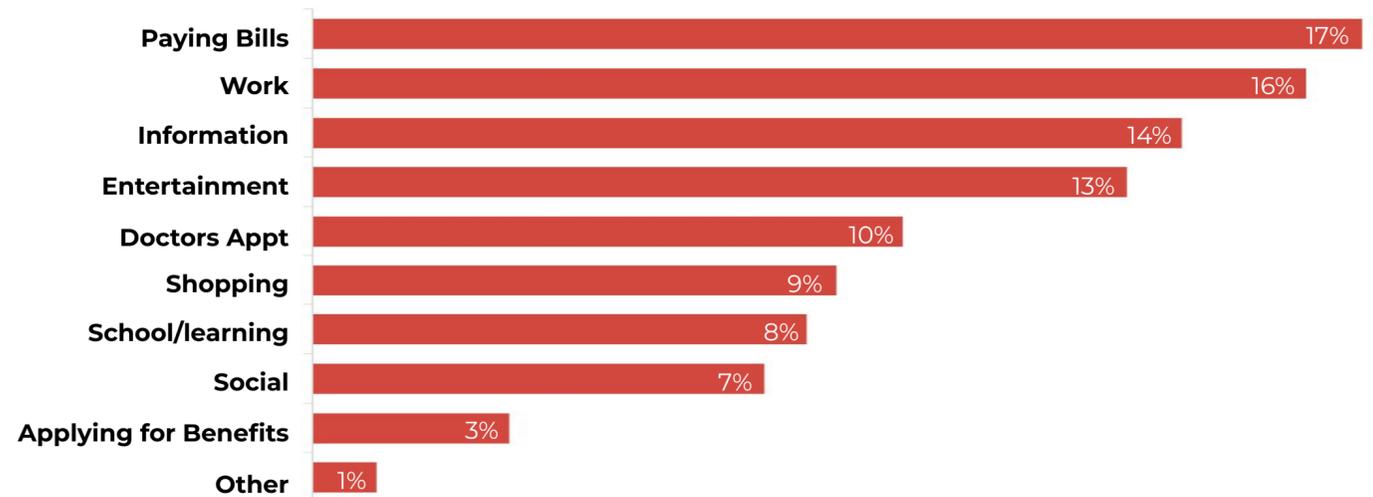


## The Need for Adequate Internet is All-Encompassing

### Quantitative

- 94.5% use the internet in their home daily.
- 76.5% say it's a top priority alongside rent, food and transportation.
- 76.7% say it is at either 'very important' or 'extremely important' to maintaining their personal wellbeing.

Q15 - What are the three most important things for you to be able to do online?



### Qualitative

- Many residents described themselves as dependent on their internet for both need-based tasks as well as entertainment.



*“Without access to the internet, there is no opportunity to work from home, entertainment, or learning.”*

– Kristen



*“When my provider cut me out, I streamed from the phone hotspot and sent it to the tv. I wasn't going to be without internet.”*

– Tina

# Insights From Residents

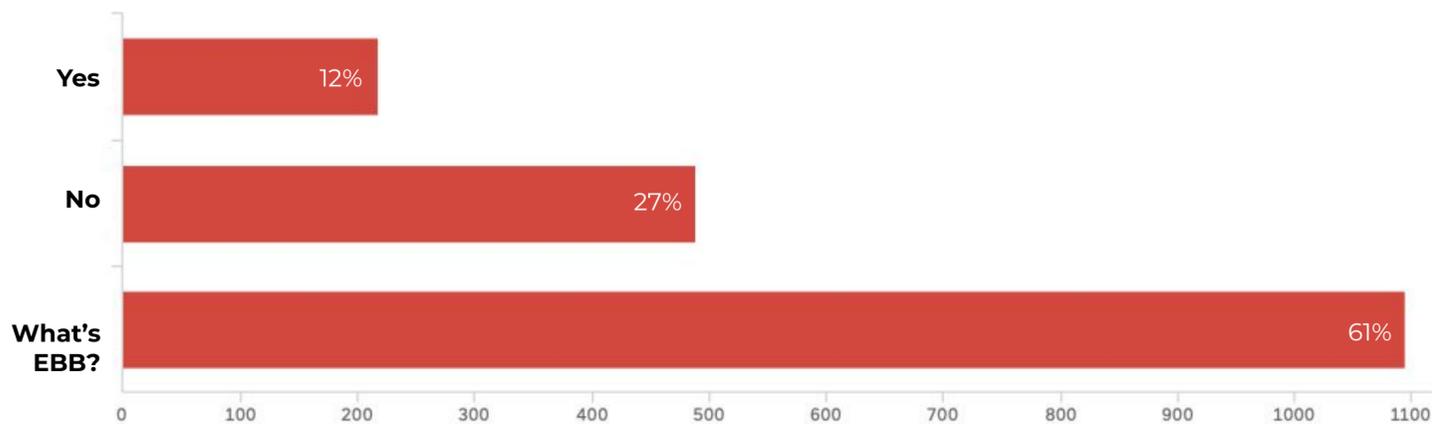


## Residents Don't Know they Deserve Better

### Quantitative

- 61% of subsidy-receiving households were not aware of EBB.
- Only 15% of respondents had no complaints about their WiFi.

Q24 - Have you taken advantage of the Emergency Broadband Benefit?



### Qualitative

- Residents using EBB were hesitant to speak up about low speeds.
- Most research subjects did not know the speeds for their plan.
- The stigma of confusing technology is a barrier to learning more.



*“You all got my eyes open with this speed test. I do it once or twice a day now, just to check.”*

– Joseph



*“I don't know much about technology, you know the kids are more knowledgeable than I am.”*

– Tanequa





# Personas

# Personas

## Residents we engaged

- **55** residents over an estimated **88** hours of in-depth interviews or co-design sessions
- **1839** Franklin County residents surveyed on their internet usage\*
- Residents live in City of Columbus Opportunity Neighborhoods
- Residents as they relate to personas/user groups:

### BENEFITS OF USER PERSONAS

“Personas help to focus decisions by adding a layer of real-world consideration to the conversation.”  
[usability.gov](https://www.usability.gov)

“Personas help designers to create understanding and empathy with the end-users.”  
[xd.adobe.com](https://www.xd.adobe.com)

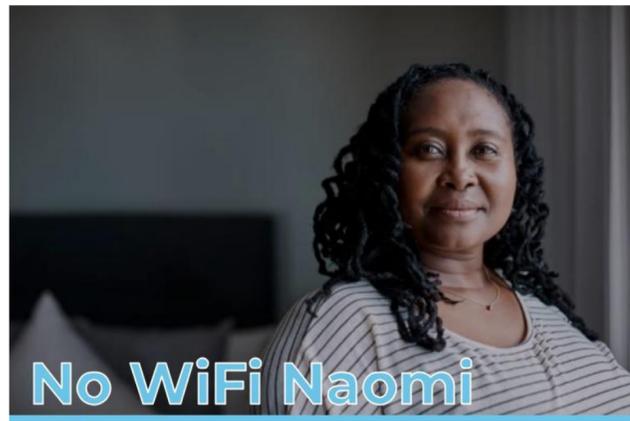
	 <b>No WiFi Naomi</b>	 <b>Temporary-Fix Tony</b>	 <b>Searching Seth</b>	 <b>Stuck Stacy</b>	 <b>Need More Nyisha</b>	 <b>Connected Cassie</b>
<b># of People in Design sprints</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>8</b>	<b>6</b>
<b>Specific Residents We Engaged</b>	John, Cierra, Michelle, Virginia, Debora, Delisa	River, Jill, Tara, Linda, Ashley	Taylor, Tara, Elizabeth, Anibal, Phoebe, Mey	Cora, Wanda, Branden, Kayla, Kaitlyn, Nicole, Jonna, Tila	Aisha, Tina, Michael, Joseph, Syreeta, Ronda, Kristina, Maggie	Susan, Kristen, Sherita, Zoey, Tanequa, Durrie



# Personas Overview

## Residents' experiences and needs of in-home internet range.

### NO ACCESS AT HOME



I don't have home WiFi.

### HAS INTERNET, NEEDS ARE UNMET



I pay a lot to get what I need and I still don't get what I need.



I don't trust the large Internet Service Providers.

### INTERNET NEEDS ARE MET



I pay a reasonable price for WiFi services that fit the needs of my entire family.



I pay the minimum and it sets my expectations low.



I don't know there are low cost plans.

# Personas



## No WiFi Naomi

Caring | Family-oriented | Data-dependent

Naomi has no in-home WiFi. With her tight income, she has prioritized other spending particularly during the pandemic. Her job as an assistant at the local nursing home exhausts her, but she loves caring for others. She prioritizes her family and often has a home-full of guests.

### INTERNET USAGE

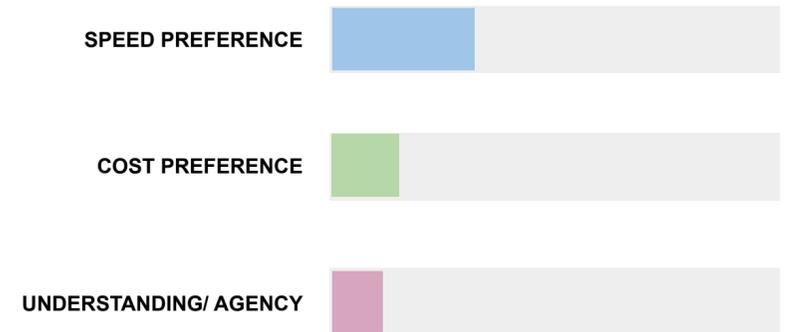
#### DESIRED USES

- Her 8-year old granddaughter wishes she had WiFi when she visits for homework.
- Her 20-year old daughter wishes she could watch Hulu, but instead is stuck watching cable.
- Likes the idea of staying connected to her sister in Atlanta, but has not joined any social networks.

#### KEY CHALLENGES

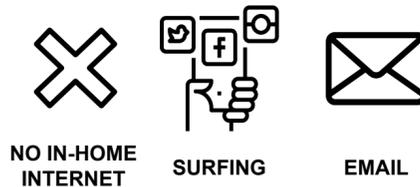
- Embarrassed to not be connected;
- Intimidated by getting started – who to call, what is a fair plan, how to connect;
- Doesn't feel confident using a computer or surfing the internet.

### PREFERENCES



*I don't have home WiFi.*

**NORTH LINDEN**



### MARKET SIZE

- 8.3% don't have residential broadband (JFS).
- 20.7% of households in Franklin County do not have residential broadband (US Census 2019).



**FRANKLIN COUNTY DIGITAL EQUITY COALITION**

DIGITAL EQUITY COALITION

### IDEA TO ADDRESS CHALLENGES

- Digital Navigators can help to teach the necessary skills to become more digitally connected.

### GAPS IN UNDERSTANDING

- Most of our outreach has occurred in digital channels. How can we reach this audience in an effective way?

# Personas



## Temporary-Fix Tony

Resourceful | Budget-conscious | Handy

Bradon uses Emergency Broadband Benefit (EBB) for WiFi. Since COVID-19, he has struggled to find a stable job. He is a part-time seasonal worker at a department store to pay for the expenses of his large family. He has always been great with his hands and loves watching DIY construction projects.

### INTERNET USAGE

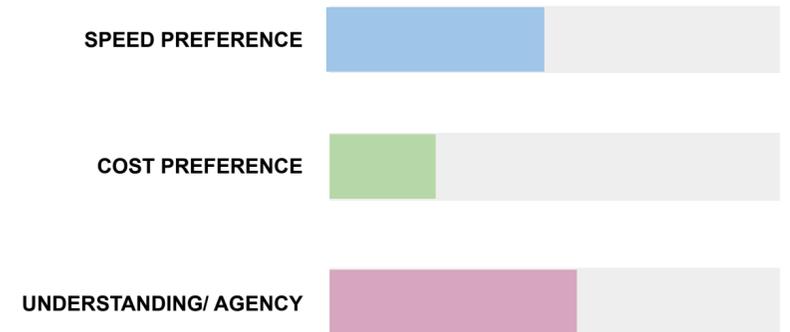
#### DESIRED USES

- Playing an online board game with friends
- Searching through Facebook Marketplace for useful items
- Finding helpful construction tips on Social Media

#### KEY CHALLENGES

- Needs basic internet to search for jobs
- Feels frustrated with poor service

### PREFERENCES



*I pay the minimum and it set my expectations low*

HILLTOP



### MARKET SIZE

- 12.1% are using EBB (JFS)
- 6.4% of households in Columbus are receiving EBB (MORPC 2021)



### IDEA TO ADDRESS CHALLENGES

- Short-term pilots in opportunity neighborhoods will offer more reliable service than other low-income plans.
- Use speed tests to support self advocacy and community action

### GAPS IN UNDERSTANDING

- This market is complacent when experiencing poor quality on discounted services. How do we help them understand what they are entitled to?

# Personas



## Determined | Curious | Thorough

Sara is looking for an affordable provider. She lives in a 3-generation household and is the main provider for the family. She is a caring neighbor and often invites others to dinner. On weekends, she spends lots of the time in the kitchen preparing traditional meals with her grandfather.

## INTERNET USAGE

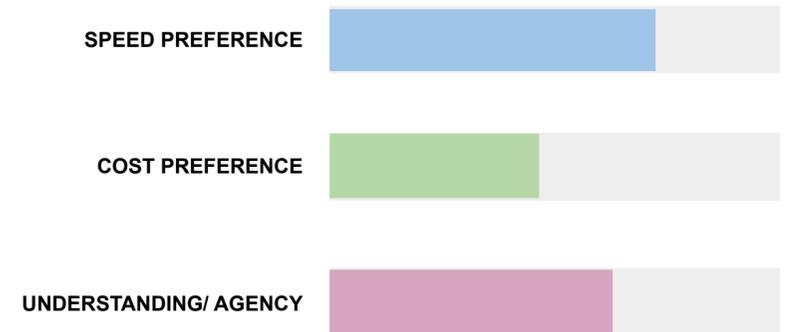
### DESIRED USES

- She is constantly checking her email for work
- Her 20-year old daughter is taking virtual classes for her community college.
- Her 2 sons enjoy spending lots of time playing racing games on their phones.

### KEY CHALLENGES

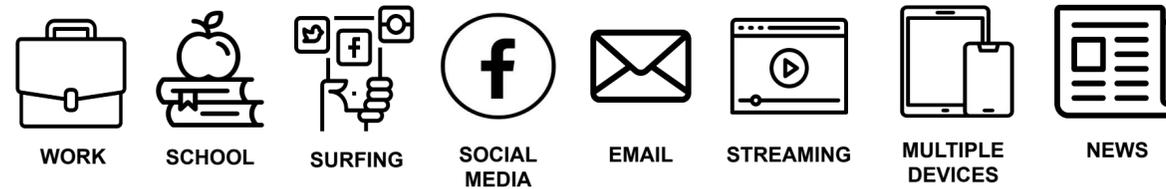
- Feels stressed from WiFi needs of the whole family
- Feels a lack of trust with her current provider always trying to sell her more services

## PREFERENCES



*I don't trust the large Internet Service Providers.*

## SOUTH SIDE



## MARKET SIZE

- 54.8% complained that their current home Internet/WiFi is too expensive or has recently raised their monthly bill (JFS).

## IDEA TO ADDRESS CHALLENGES

- Resident Ambassadors to help inform residents of the intersecting pieces of the internet quality puzzle.

## GAPS IN UNDERSTANDING

- Many people feel stuck with their providers. What factors most motivate this group to switch providers?



# Personas



## CONNECTED CASSIE

**Enthusiastic | Empathetic | Engaged**

Cassie is happy with her home WiFi. She works virtually as a customer service representative. She posts consistently to her Facebook page and enjoys keeping up with the whereabouts of her extended family. At the end of every week, she looks forward to a relaxing movie night with her family.

### INTERNET USAGE

#### DESIRED USES

- Working from home (ethernet)
- Her husband loves to scroll through Twitter for daily news
- Her 10-year old son is a dedicated viewer to his favorite Twitch streamers

#### KEY CHALLENGES

- Advocating agency to others who are unsatisfied with their current Internet Service Providers

### PREFERENCES



*I pay a reasonable price for WiFi services that fit the needs of my entire family.*

**FRANKLINTON**



### MARKET SIZE

- 15.9% do not have issues with my home Internet/Wifi (JFS).

### IDEA TO ADDRESS CHALLENGES

- Teen STEM Camps will promote digital connection to their youth.

### GAPS IN UNDERSTANDING

- What are the biggest risks in taking this person away from being happy and connected?



# Personas



## SEARCHING SETH

Busy | Organized | Expressive

Terry isn't aware of low-income broadband options. As a salesman, he is on the road a lot. When home, he makes sure to spend quality time with his wife and two daughters. He enjoys staying up-to-date on the latest sports news, which comes in handy when making small-talk.

### INTERNET USAGE

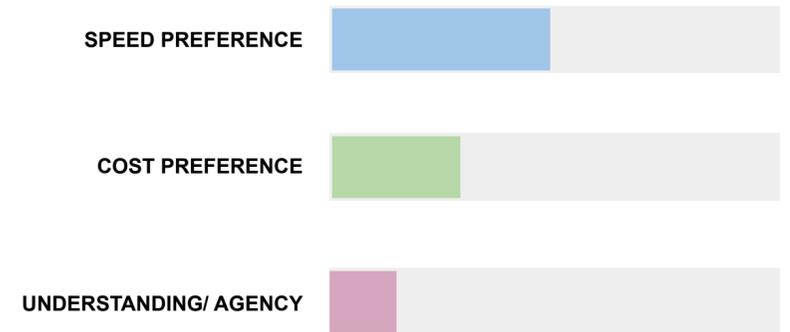
#### DESIRED USES

- Support multiple devices for each of his children
- Occasionally tries to stream Columbus Blue Jackets games
- Scrolling through sports news late into the night

#### KEY CHALLENGES

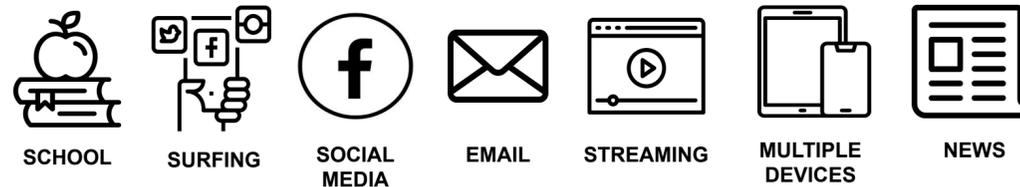
- Needs basic internet to support his families WiFi needs
- Feels frustrated with high bills for what doesn't even feel like good service.

### PREFERENCES



*I don't know there are low cost plans.*

CUMBERLAND RIDGE



### MARKET SIZE

- 60.8% are not aware of the Emergency Broadband Benefit (JFS).
- 43.2% of households in Poverty are not receiving EBB (MORPC 2021).



### IDEA TO ADDRESS CHALLENGES

- An unbiased comparison tool that shows low-income plans and helps bring awareness to available services and savings.

### GAPS IN UNDERSTANDING

- Low-Income plans can be confusing and complicated. How can we communicate these options in a simple and transparent way?

# Personas



## NEED MORE NYISHA

**Creative | Curious | Self-Confident**

Nyisha wants a higher quality broadband service. She and her 3 roommates are very organized and great at sharing their belongings, but sharing their bandwidth is a different story. With multiple people working at home, it can be hard to prioritize certain tasks over others.

### INTERNET USAGE

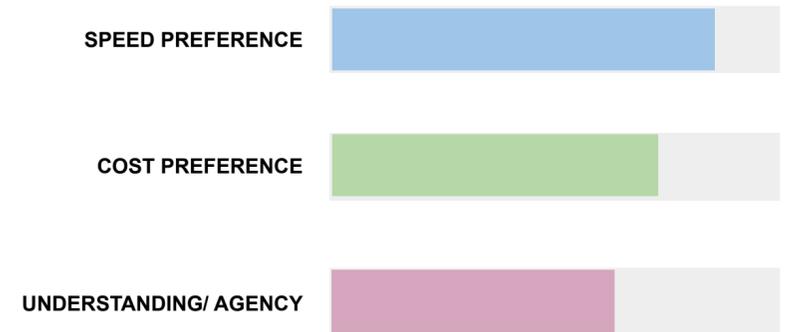
#### DESIRED USES

- Uploading marketing content for her work
- Listening to streamed music while creatively exploring Pinterest
- Keeping multiple tabs open to track her many ongoing tasks
- Playing multiplayer combat games on her laptop

#### KEY CHALLENGES

- Feels frustrated that her enjoyment is limited to the quality of her WiFi
- Feels a lack of trust with her current provider not delivering what they promise

### PREFERENCES



*I pay a lot to get what I need and I still don't get what I need.*

### MERION VILLAGE



### MARKET SIZE

- 41.4% complained about having slow or unreliable service (JFS).



### IDEA TO ADDRESS CHALLENGES

- Long-term fiber infrastructure can offer a higher quality broadband service.
- Regular audits to ensure that people are getting what you pay for.

### GAPS IN UNDERSTANDING

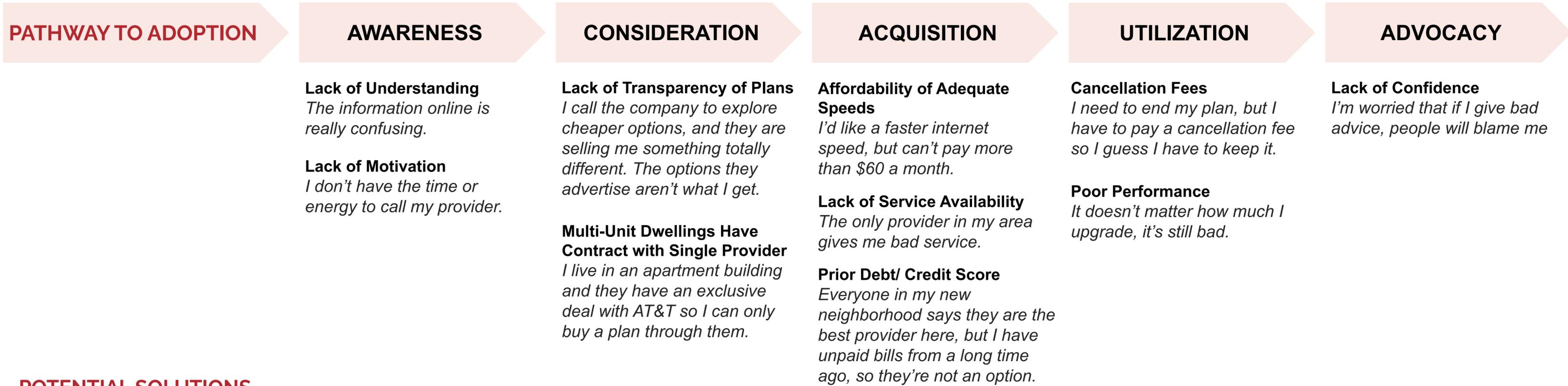
- Fiber is expensive compared to other broadband options. Will enough people take-up this fiber option to make it a sustainable solution?



# Barriers/User Journey

# Barriers/User Journey

## Residents Face Barriers in Each Phase Towards Being Connected.



### POTENTIAL SOLUTIONS

EDUCATION OUTREACH CAMPAIGN	✓	✓			
DIGITAL NAVIGATORS	✓				✓
INTERNET COMPARISON TOOL		✓		✓	✓
FIBER TO THE HOME				✓	✓
EBB PROMOTION				✓	
RESIDENT AMBASSADORS					✓





**Solution Iteration**

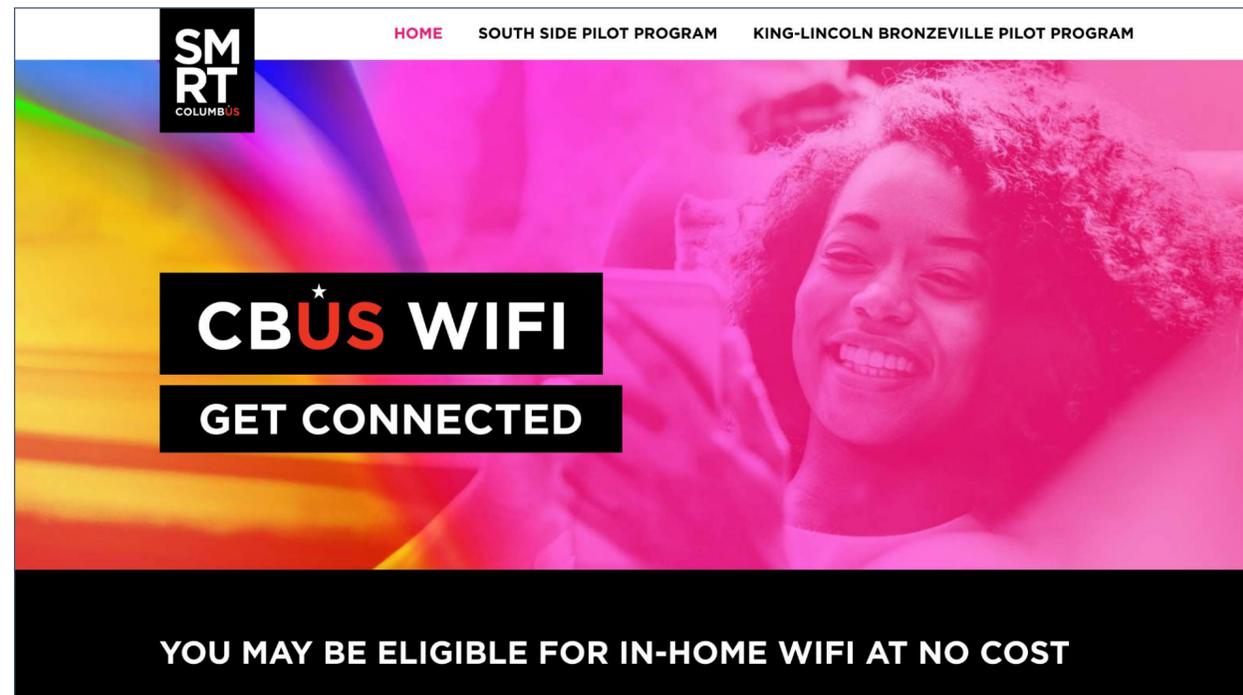
# Temporary WiFi Pilots

## Delivering Immediate Connectivity to Low-Income Neighborhoods

### A Problem Worth Solving

It was found that students in 2 neighborhoods (Southside and King-Lincoln Bronzeville) had very low rates of CCS Students logging into their online learning portal.

Our pilot gave free connectivity to these neighborhoods by testing emerging last-mile fiber technologies.



### Partners



### Slow Adoption

Due to low initial interest, we were able to increase eligibility from CCS households to anybody within the neighborhoods. Even still, most users were recruited from CSS, a trusted organization.

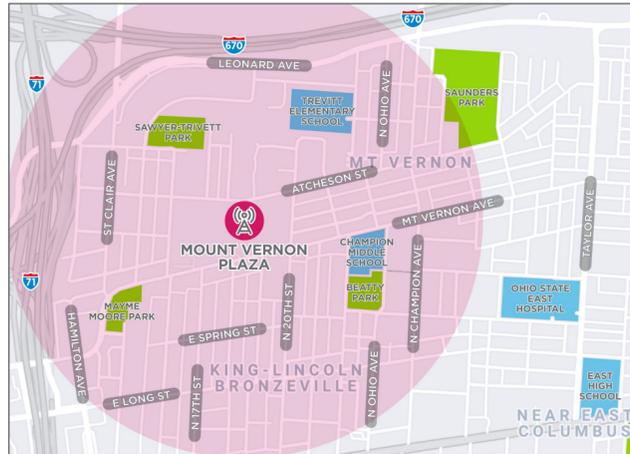


### Showing People their Options

Research Sprints suggest a general lack of awareness for these pilots and other low-income resources. An unbiased Internet Comparison Tool was conceived to give these residents more knowledge about their WiFi options.

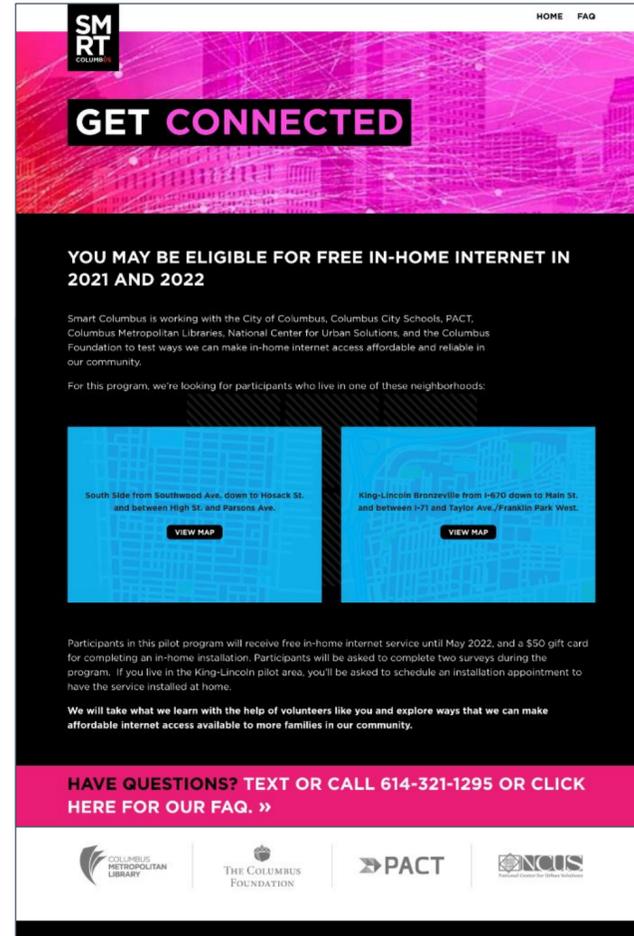
# Temporary WiFi Pilots

## In-Home WiFi Pilots Barriers/Improvements



### Eligibility

About 50% of interested King Lincoln Bronzville residents were too far to be connected



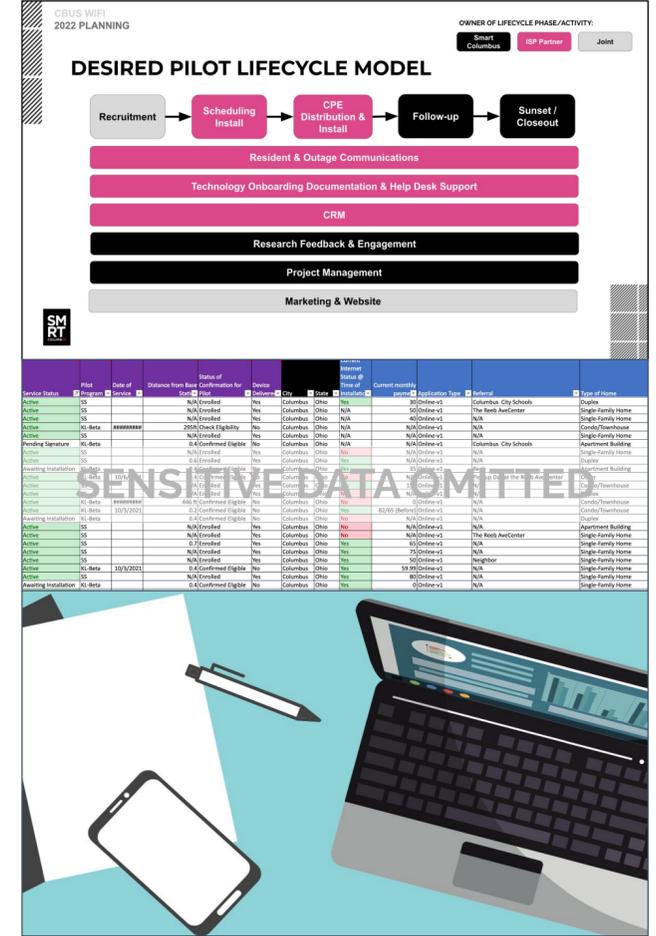
### Awareness/Trust

Despite offering free service for an entire year, adoption was slow. We now use the term 'no cost'.



### Performance

Not all of our service was meeting the 50/50 mbps speeds we were promising. We changed the technology to fix this.

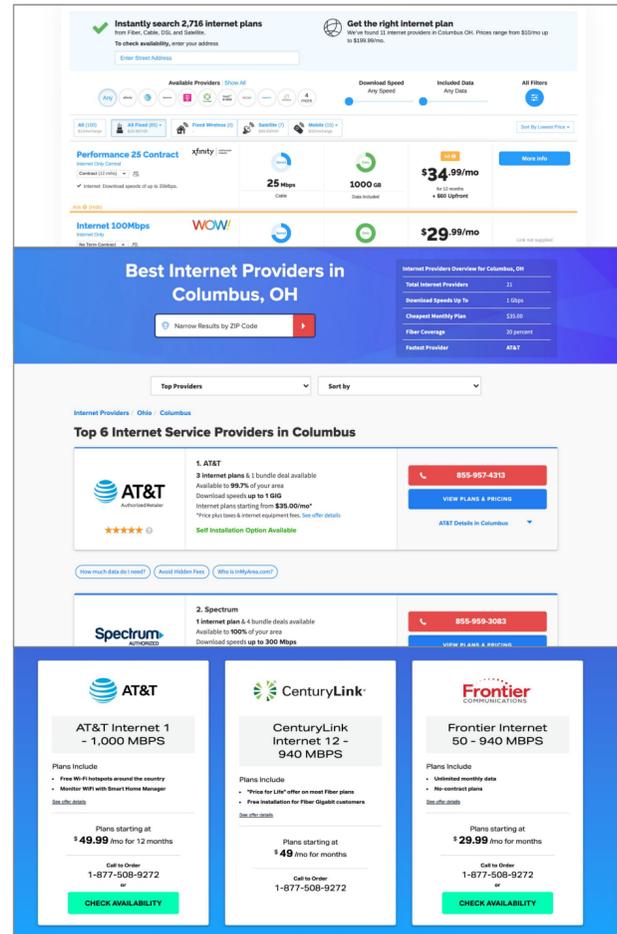


### Process

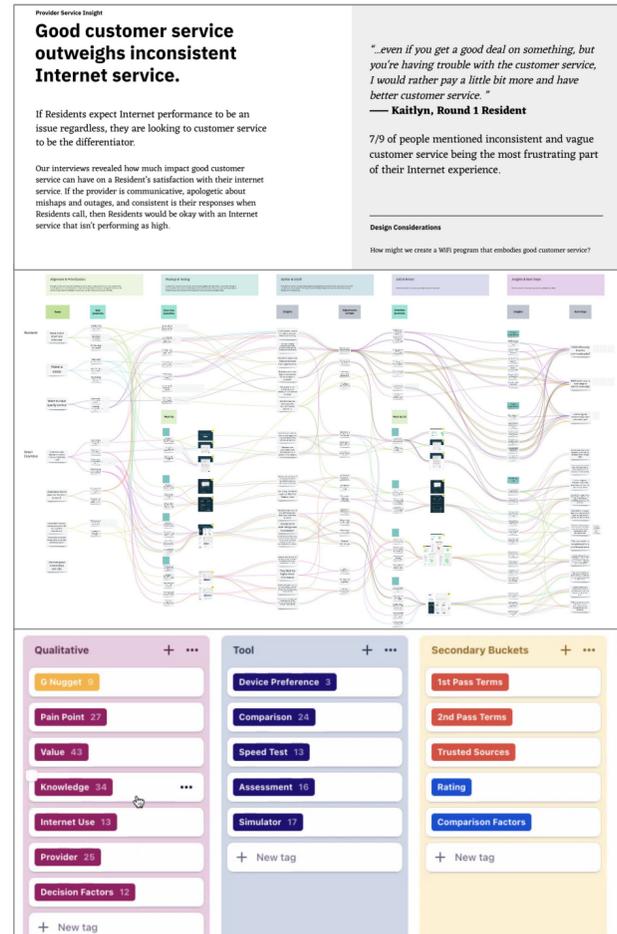
In the beginning, there were some inefficiencies. We worked with the provider to streamline the process.

# Internet Comparison Tool

## Internet Comparison Tool Learning Process



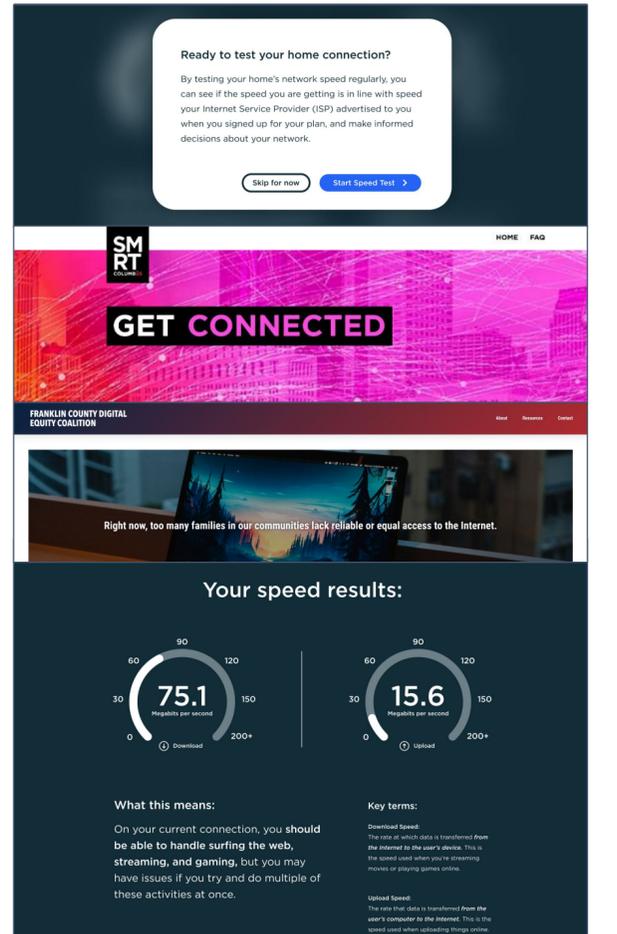
**Market Analysis**  
*Many e 50% of interested King Lincoln Bronzville residents were too far to be connected*



**Validating Need**  
*We interviewed 9 residents and learned their knowledge and desires when choosing a service provider.*



**Refining Usability**  
*Receiving feedback from users was helpful to learn how they interact with the tool and what was confusing.*



**Working with Developers**  
*Showing our prototype to partner developers, we received notes on feasibility and estimated costs*



# Device Access



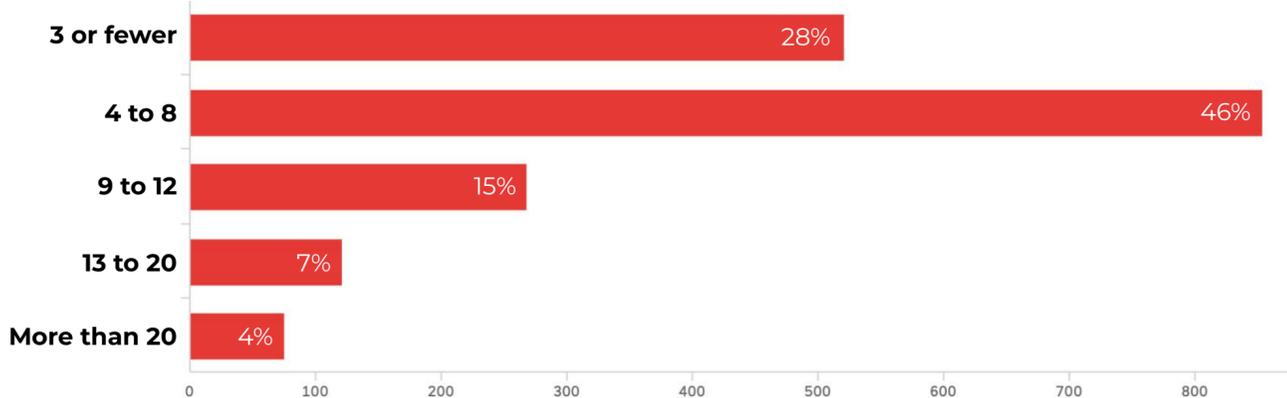
# Device Access

## Households are using Multiple Devices

### Quantitative

- Of the 298 Pilot Program Enrollment Survey Submissions:
  - 85% had a device that can access the internet
  - 87% indicated they would like a tablet, smartphone, or laptop if it was offered through the program.
- The most commonly owned devices from the JFS Survey:
  - Smartphone (93%)
  - Laptop computer (70%)
  - Smart TV (68%)
  - Tablet (55%)

Q18 - How many Internet-using Devices do you have in your home?



### Qualitative

- Many residents did not realize how many devices they used until listing them all out.
- Even Residents that live alone are using multiple devices at a time.
- On average, household size correlates to devices used.



*"[My household has] 13 devices total...  
Cut my devices in half? I can't!"*

– Tina



*"I have a phone, a TV, and a tablet. I also got a Fire stick for my birthday. I would like a laptop, but can't afford it right now."*

– Shay

# Device Access

## Working Group Deliverable

### Learning Goals

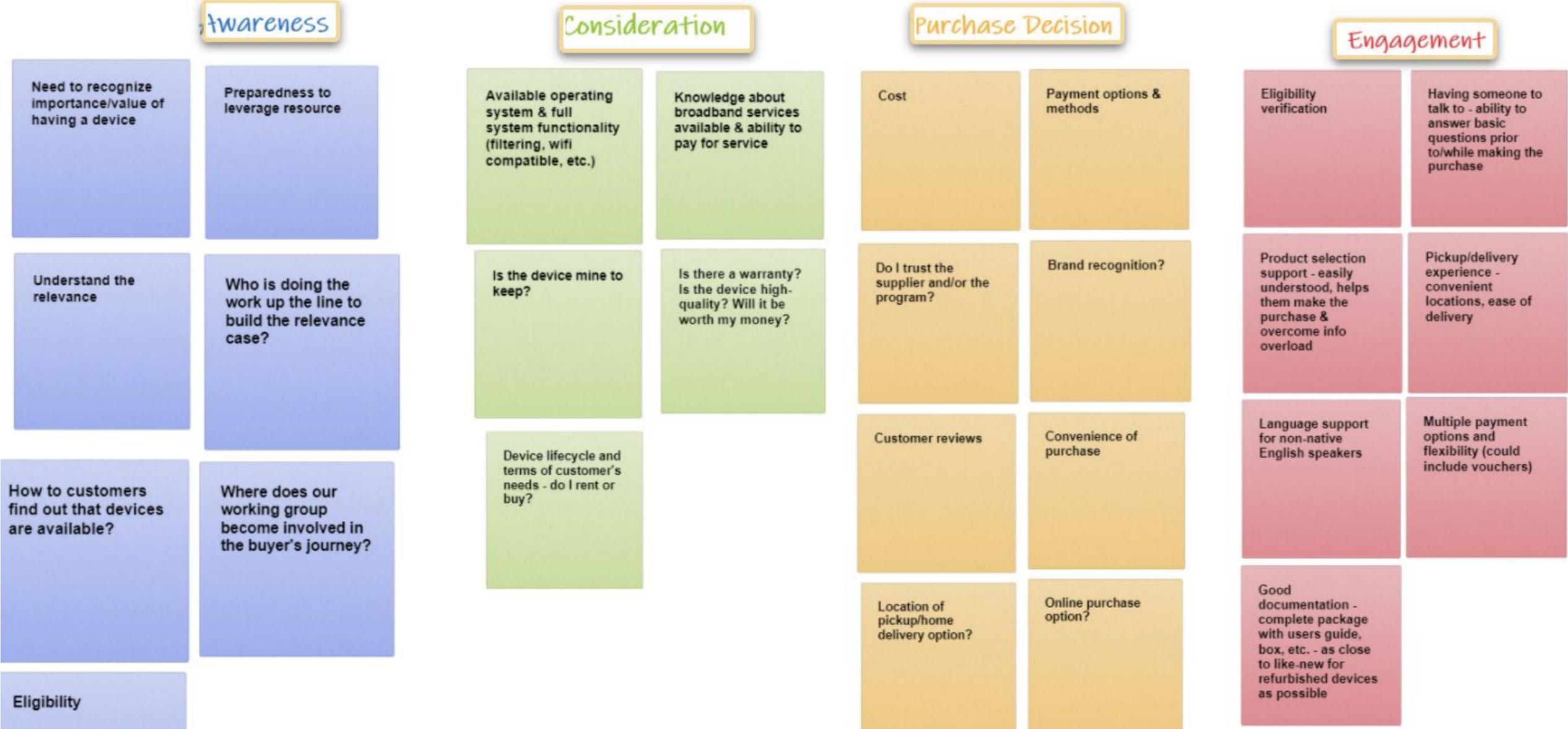
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### Process

- 

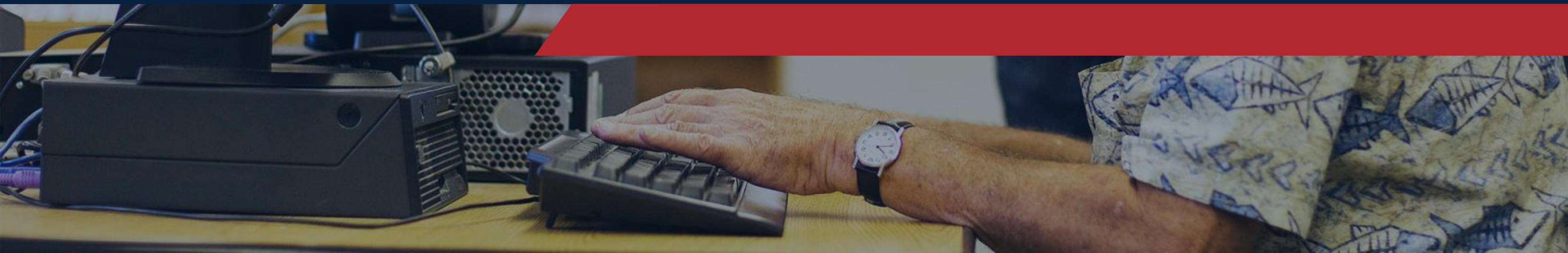
### Key Insights

- 





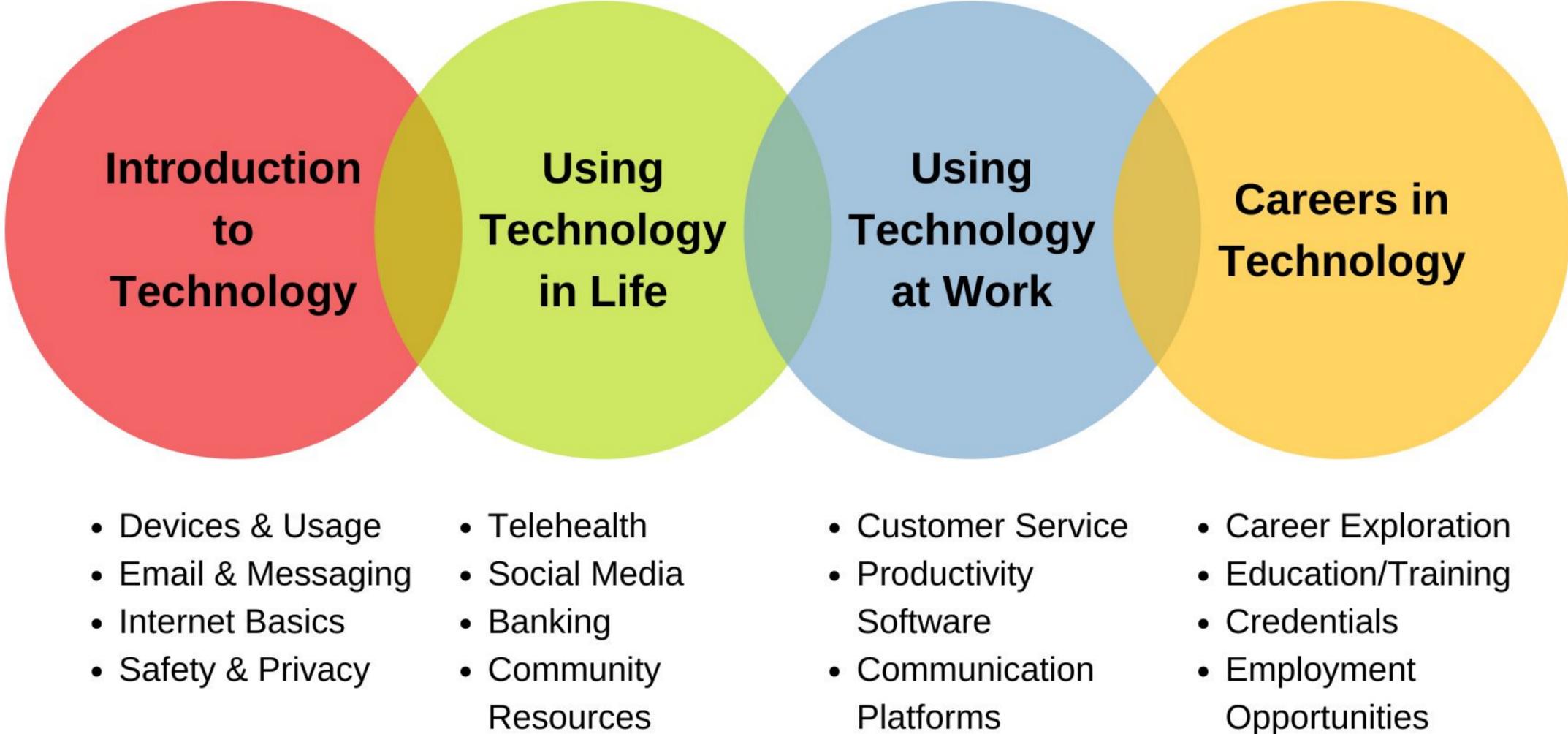
# Digital Life Skills



## Continuum of Digital Skills

### Learning Goals

- What is the impact of Summer programs supporting STEM to teenagers?
- How seniors and New Americans are currently accessing help?
- How can we teach people about the uses of internet in a way that feels personal.



# Digital Life Skills

*“The new computer is quite literally a godsend, as we did not have technology like that at home for her; what a bonus!”*

*-Student’s Mom about the CCAD Program*



Click the Image for video testimonials from the Artsway Columbus Summer Tech Youth Mural Program

*“I loved this and I wanna do it every summer forever <3<3<3<3 the people were great and I made a friend”*

*– Student’s typed feedback about the Artsway Program*



## Teen STEM Camps

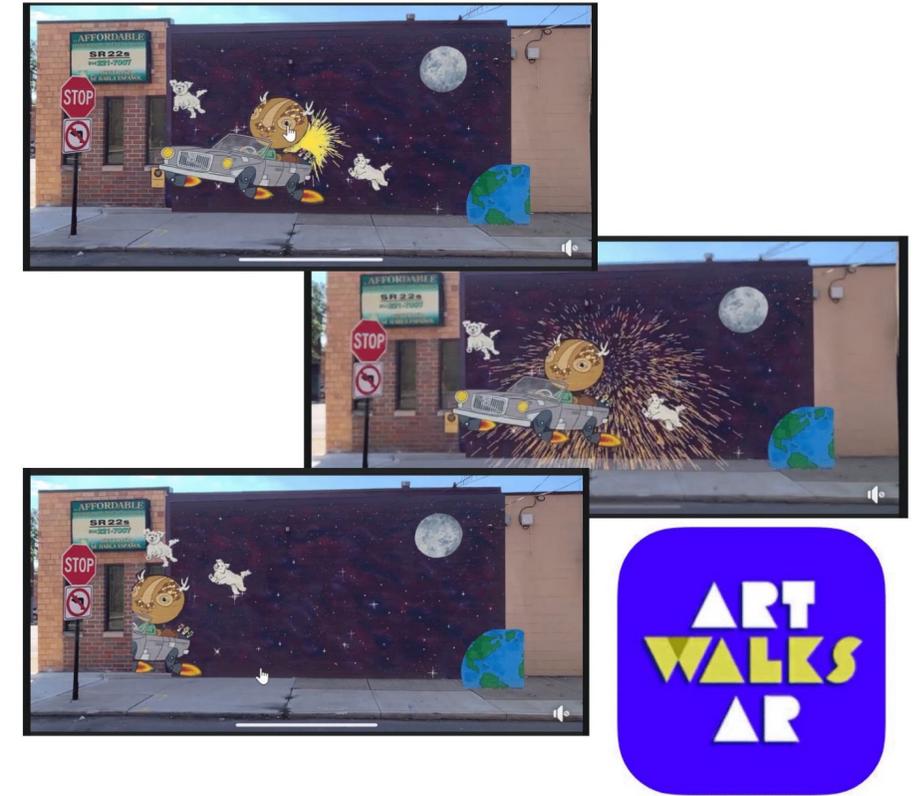
### Quantitative

- \$366,700 was budgeted to 3 organizations to lead Summer STEM programs
- Directly impacted 1,275 Columbus City School Students

THE PAST  FOUNDATION  
access through innovation

  
Columbus Summer Tech Youth Mural Program

 Columbus College of Art & Design



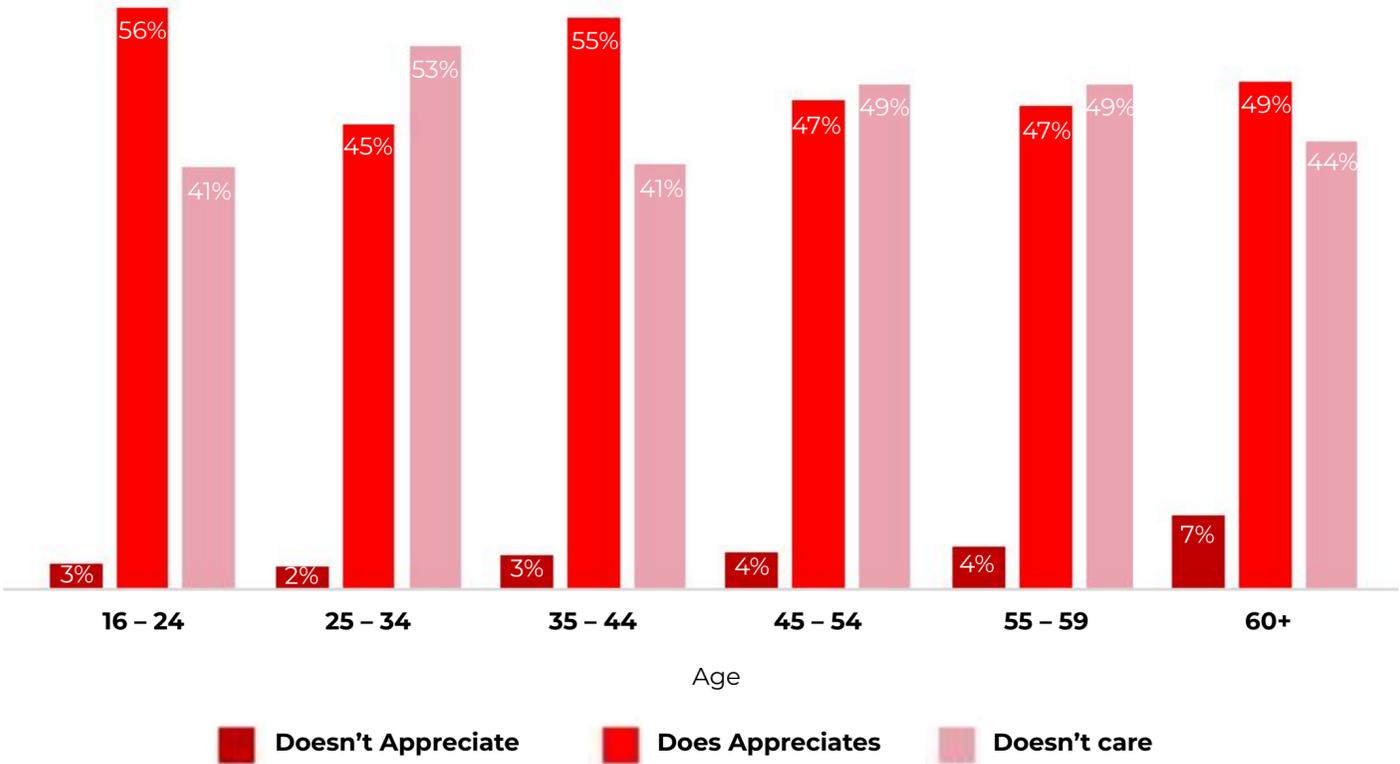
# Digital Life Skills

## Digital Life Skills would impact various target populations

### Quantitative

- Of the 46% that would prefer a WiFi service more if it came with access to digital life skills training:

Perspective on Digital Life Skills Services By Age.



### Qualitative

- Residents can be quick to assume ignorance with WiFi problems
- Confusing terms include bandwidth, download/upload speeds, and mbps.



*"It is confusing when someone tries to tell you all the numbers and you don't know what [Mbps] means."*

– Syreeta



*"I am illiterate with this stuff (regarding speed tests), so I should know more about it."*

– Tara

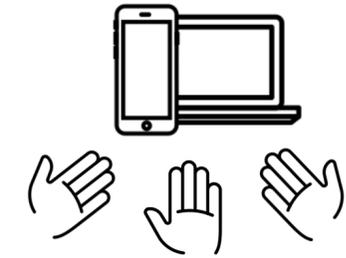
# Insights From Residents



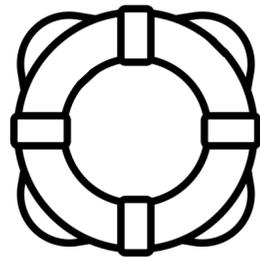
The words “Digital Navigator” did not have meaning for residents



People don't want to feel stupid or like a burden when they are learning



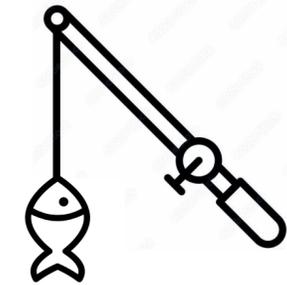
Many people would benefit from personalized help



For New Americans, it's about survival



for Seniors, it's about connection;



For students, it's about potential

## PRIMARY AREAS OF DIGITAL LIFE SKILLS

- Introduction to Technology
- Using Technology in Life
- Using Technology at Work
- Careers in Technology

## HIGHLIGHTED USER GROUPS

- New Americans
- Seniors
- Students



# Digital Life Skills



## The words “Digital Navigator” did not have meaning for residents

### Analysis

- People don't understand the term Digital Navigator.
- The name should be changed to one that users can understand, appreciate, and trust.

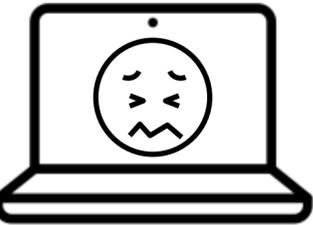
### Recommendations

- Get feedback from residents about alternative names

### Quotes

Senior	<i>“I have no clue about that...Doesn't bring up anything to me. Maybe a game...Tablet?”</i> —
New American	<i>“[I] have never heard of that before. I don't know what it means.”</i> —
New American	<i>“Video that instructs you how to do something or a paper – I don't know – or a person?”</i> – Tara

# Digital Life Skills



People don't want to feel stupid or like a burden when they are learning

### Analysis

- People want to feel heard, understood before they will accept help and be willing to admit what they don't know.
- When people contribute help of their own, they feel more willing to allow someone to help them.

### Recommendations

- Never make assumptions about what people know or can do; let them tell you.
- In hiring, preference empathy, patience and kindness; this is more important than the demographics of the employee
- Consider what role shame plays in asking for and receiving help

### Quotes

New American	<p><i>"[New American parents] shy off asking questions. They don't want to look dumb and not up to date about things."</i></p> <p><i>–Maganey</i></p>
Senior	<p><i>"My granddaughter was 12 at the time. When I had a question [she said] Granny we did tell you once. I felt like oh my goodness, I better get it this time."</i></p> <p><i>–Michelle</i></p>
New American	<p><i>"Someone teaching should be approachable and patient. The learner may not have basic skills so patience is key."</i></p> <p><i>–Jeanette</i></p>

# Digital Life Skills



## Many people would benefit from personalized help

### Analysis

- Those with the lowest tech abilities may desire the most tailored, discrete help.
- People appreciate being met where they are.

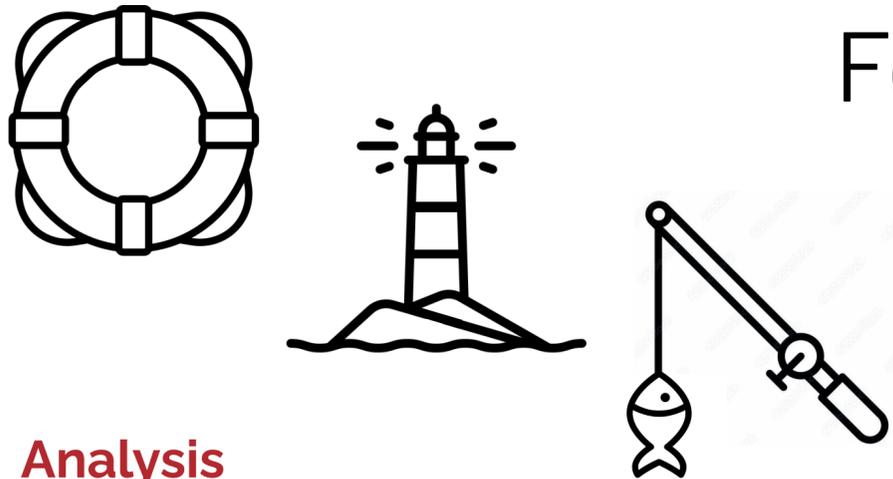
### Recommendations

- Can you have a one-on-one offering?
- Can you provide an at-home offering?
- Can you provide offerings that can be repeated again and again?

### Quotes

New American	<i>“I feel like serving the newcomers separately instead of [with] people who are used to the country [is best]. –Maganey</i>
Senior	<i>You can’t teach [two of my friends] – they get frustrated. They don’t get it... I don’t have the patience. They need that one-on-one minute-by-minute help.” –Michelle</i>
New American	<i>“I go to their house to teach them. I show mom Zoom and ask the older sibling to sit there with me. I teach them both at the same time. –Maganey</i>

# Digital Life Skills



For New Americans it's about survival  
For Seniors it's about connection  
For students it's about potential

## Analysis

- One interviewee's daughter went missing in 2017. She did not use a smartphone before that.
- Learning about technology seems like an extra task, people are more focused on providing for their kids and picking up the extra shift at work.

## Recommendations

- Consider inserting "joy" in how you provide the offering.
- Anticipate and plan to deliver help in the moments when someone might predictably need tech help.
  - Planning transport for a new job
  - Filing paperwork with JFS

## Quotes

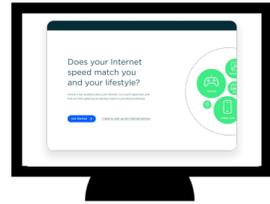
Senior	<p><i>"We're like a canoe out on the ocean."</i></p> <p><i>–Juanita</i></p>
New American	<p><i>One interviewee's daughter went missing in 2017. She did not use a smartphone before that.</i></p> <p><i>–anonymous</i></p>
Senior	<p><i>"I like a formal class, anything where we can get together. I don't want to be by myself. I like the socialization part of it."</i></p> <p><i>–Gloria</i></p>



# **2022 TESTING & LEARNING PRIORITIES**

# 2022 Learning Goals

## Research & Prototyping Needed for 2022 Workstreams



### DIGITAL NAVIGATORS

### INTERNET COMPARISON TOOL

### FIBER TO THE HOME

### SHORT TERM PILOT PROGRAMS

### DEVICE ACCESS

### RESIDENT AMBASSADORS

#### Naming

What is the best name for this service?

#### Coordination

Should nonprofits service the tech needs of their clients, or should there be a referral system?

#### Demographic Analysis

What can we learn from seniors?

#### ACP Analysis

Does the EBB to APC change the implementation strategy

#### RFI/RFP

What are public-private relationships like in the area?  
How affordable are we able to make CBus WiFi?

**Combine REs/Nav; add resource directory to Int. Comp Tool**

#### Demographic Analysis

What can we learn from extremely disconnected households?

#### Overview

How does access fit into the overall problem of digital divide in Franklin County?

#### Journey Mapping

What are some use cases to consider?

#### Landscape Analysis

What is the donating capabilities of local organizations?  
What are the scaling capabilities of refurbishers?

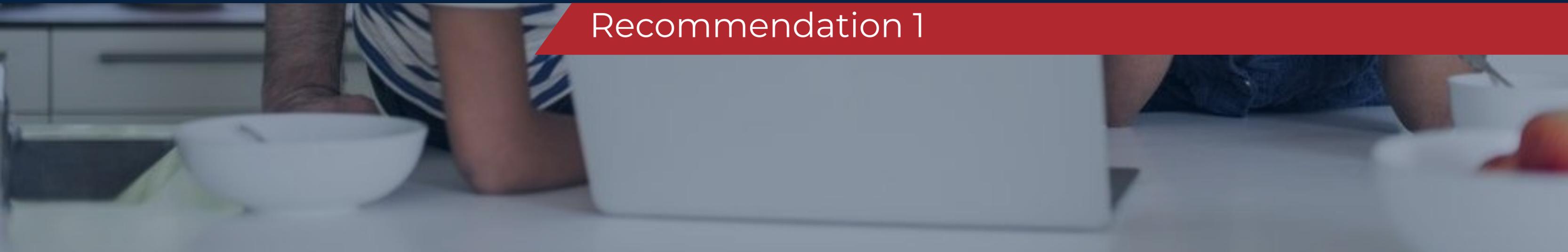
#### Prototype

What are the best methods of implementation?



# Fiber to the Home

Recommendation 1



# Temporary WiFi Pilots

## Delivering Immediate Connectivity to Low-Income Neighborhoods

### VISION

Pilot programs provide low-cost, basic internet connectivity in select neighborhoods to close urgent connectivity gaps.

3 total pilots

- Starry
- CBRS (part 2) -SouthSide1
- Fiber SouthSide2



### DESIRED BENEFITS

- Offer a quick solution to connectivity for households in a certain geographical footprint.

### KEY FEATURES

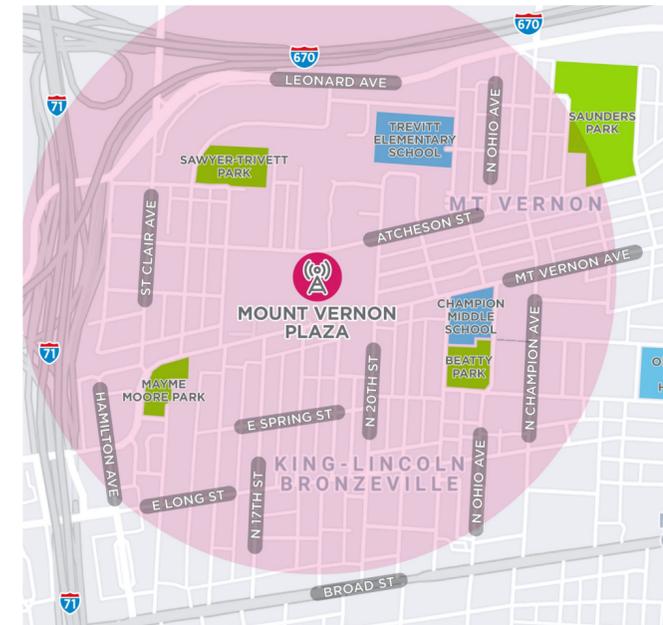
- Speeds will reach 50mbps download, 20mbps upload

### POTENTIAL IMPLEMENTATION APPROACH

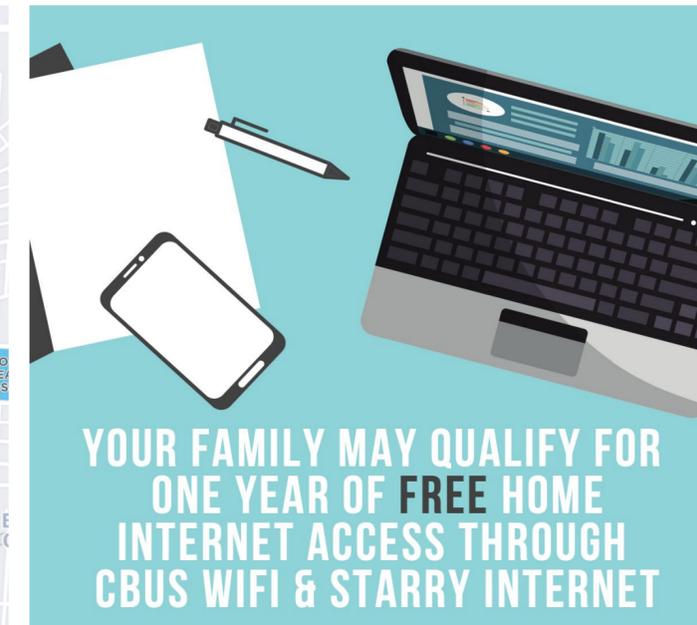
- Use neighborhood engagement events to raise awareness
- Mass email send from trusted partners.

### POTENTIAL METRICS

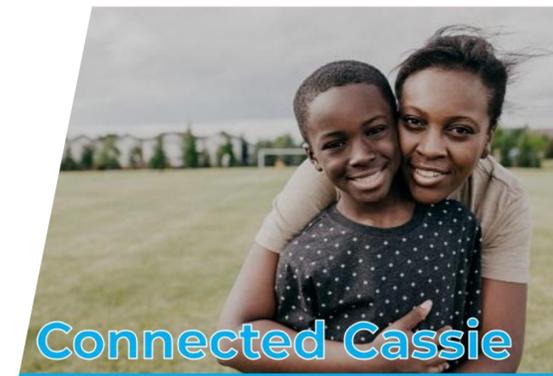
- Awareness measured by take-up rate of pilot programs
- Survey sent to households near the end of their pilot for measuring satisfaction.



Geographical Map of King-Lincoln Bronzeville WiFi Pilot



Flyer content for WiFi Pilot



Connected Cassie

*“I recommended this program to my neighbor. She has a son and he's in school too”*

*– Tanequa*

# Fiber Infrastructure

## Investing in High Quality Broadband Infrastructure

### VISION

Leveraging the City's fiber assets to bring quality, low-cost internet to residents in the Mayor's Opportunity Neighborhoods as part of the City's Smart City program is deeply aligned with the priorities and vision for the City.

### DESIRED BENEFITS

- Offering reliable broadband service
- Costing less than 1% of a household's total income

### KEY FEATURES

- An RFP that leverages public-private relationships to build out infrastructure in low-income neighborhoods.

### POTENTIAL IMPLEMENTATION APPROACH

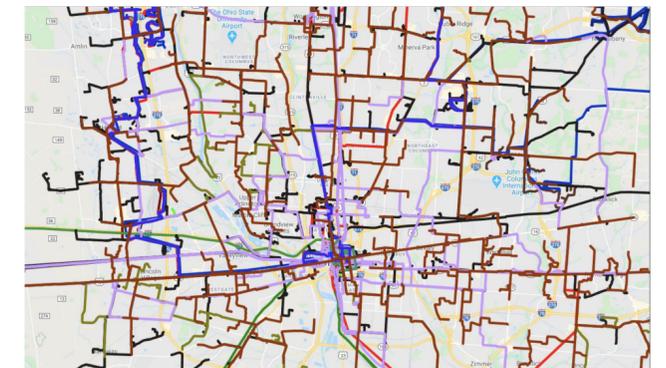
- Using satisfied customers from existing pilots to promote the fiber plan.
- Additional Advertising from ISPs

### POTENTIAL METRICS

- Awareness measured by household pledge petitions
- Effectiveness measured take-up rate once the infrastructure is built



Fiber infrastructure of the City



Fiber infrastructure of private ISPs



**Need More Nyisha**

*"[My service provider] should be able to do more, they have more equipment and cover a lot of places, they can do more."* — Michael





# Integrated Adoption Model

Recommendation 2



# Vision

SCALING A SOLUTION

## Pairing connectivity options with wrap-around services

### CONNECTIVITY OPTIONS



Pilot Programs in Neighborhoods



Fiber Infrastructure across City



Through a Resident Ambassador, Naomi signs up for our free **one-year internet pilot program** – our short-term solution to access..

Upon conclusion of the pilot, **the Resident Ambassador** will assist Naomi in switching to a long-term plan by using the **Internet Comparison Tool** to simulate what she needs and compare the plans and incentives available to her.

This tool will show her that a new **Fiber-to-Home** option is provided in partnership with the City that is more reliable, economical, and of better quality.

Long-term, our City leverages federal funds to build-out fiber infrastructure to serve Naomi with higher speed internet.

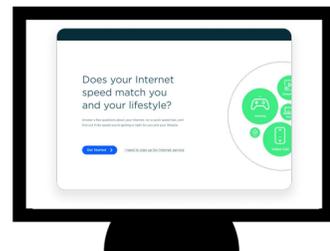
### WRAP-AROUND SERVICES



Device Access



Resident Ambassadors



Internet Comparison Tool



Digital Life Skills



Digital Navigators



# Vision

SCALING A SOLUTION

## Residents want an integrated approach



Device Access

You get a new device you could use with it. (i.e. tablet, laptop, etc)



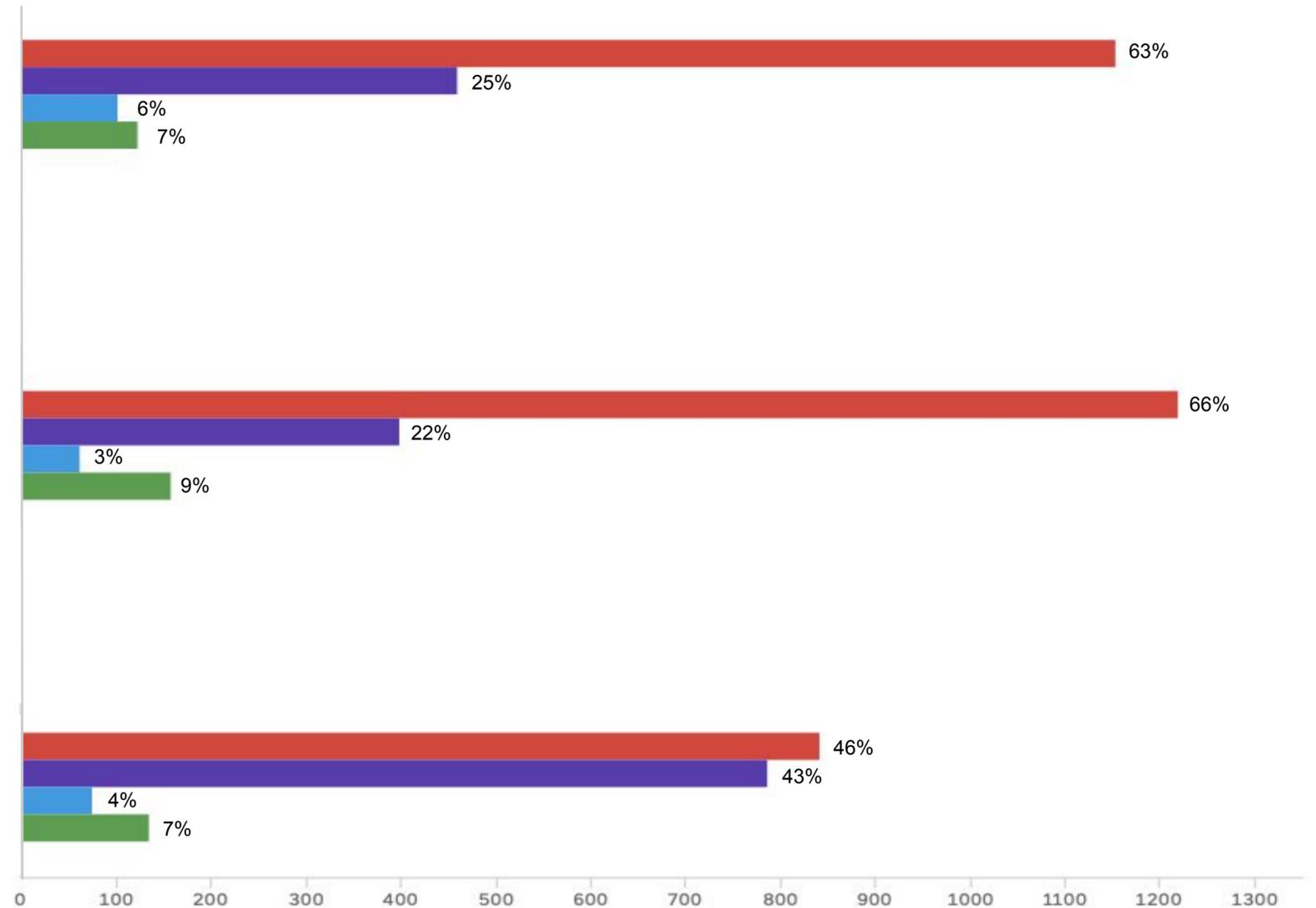
Resident Ambassadors

You heard from someone you know that it works



Digital Life Skills

You'd get access to digital life skills training.



# Vision

## Defining an Ideal Experience

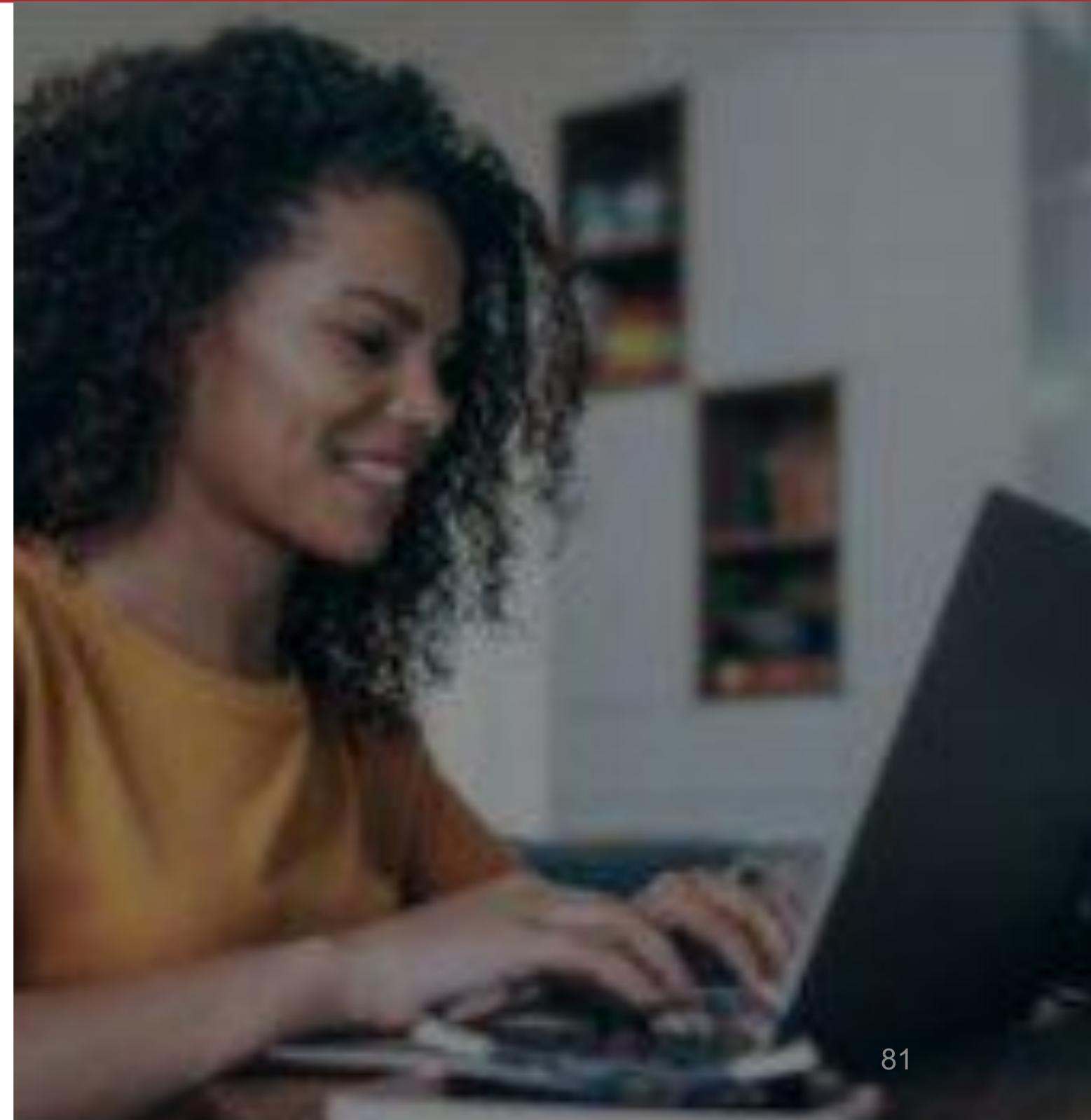
The ideal experience framework defines the features, benefits and attributes of the ideal internet connectivity experience – from awareness to enrollment to use – as **defined and told from the residents’ point of view.**

Learning from **the current experience...** provides insight into existing barriers within the current system and needs within new potential services.

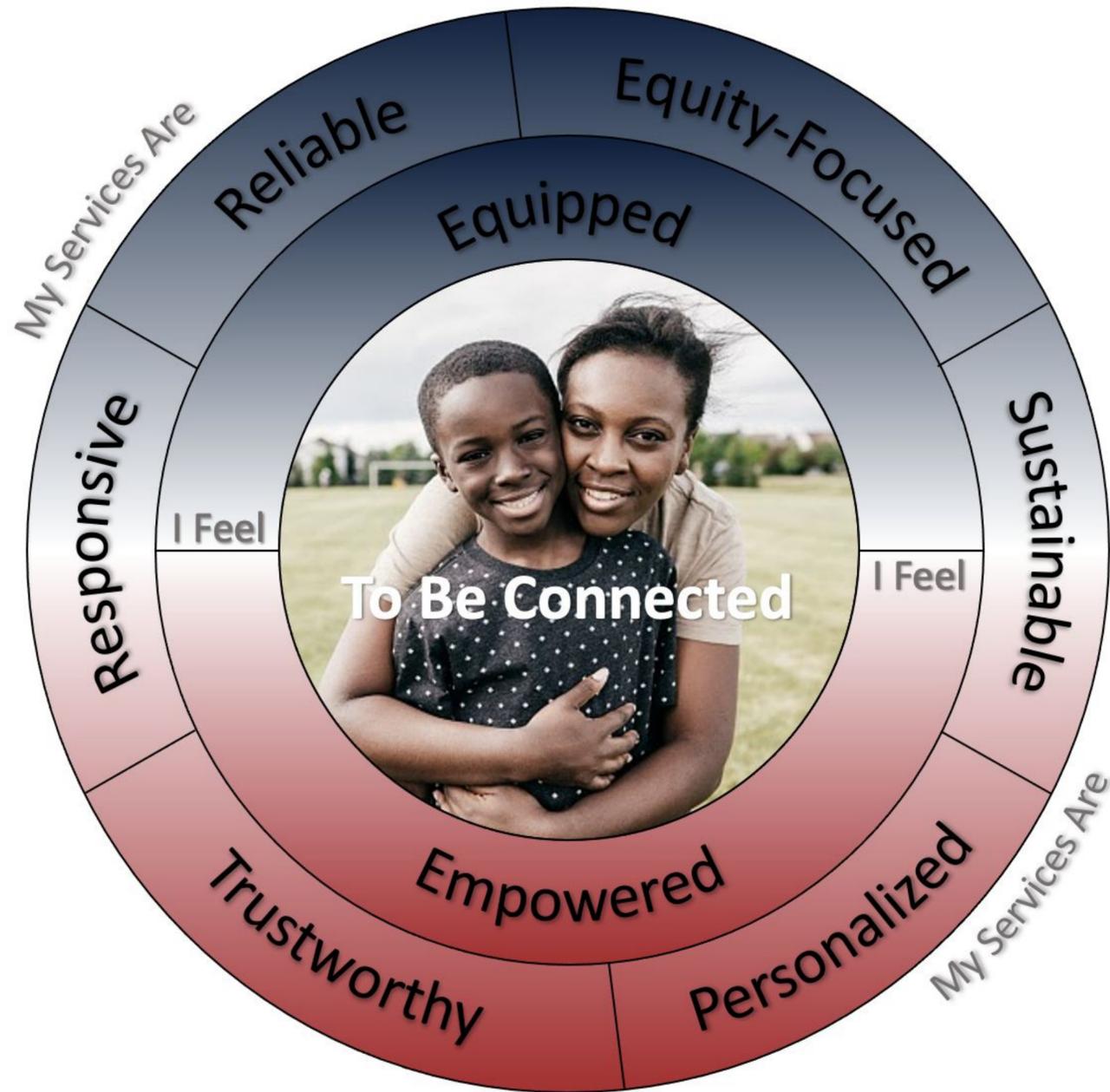
Exploring **the ideal experience...** allows us to go beyond what currently exists to create systems or processes rooted in what residents want and need.

### TO INFORM

Service Design	Partnerships
Prototyping & User Testing	Resident Engagement
Marketing	Success Metrics



# Vision



## The Ideal, Connected Experience

Residents' ideal emotional experience is at the core of this framework.

**They want to be connected.** Both in the literal sense to their WiFi, and in the figurative sense of their society.

In order to develop that connectivity, they must be properly **equipped and empowered.**

In order to feel equipped and empowered, their services must be **responsive, reliable, equity-focused, sustainable, personalized and trustworthy.**



# Build Programs & Capacity for Education and Awareness

Recommendation 3



# Resident Ambassadors

## Giving Trustworthy Testimony to Support Enrollment

### VISION

Resident Ambassadors will work side-by-side with residents, coaching them through enrollment, device acquisition, digital fluency, and customized use.

### DESIRED BENEFITS

- Creating a more personal and trustworthy advocate for our pilot programs and fiber options

### KEY FEATURES

- Will engage in multiple neighborhood engagement events to speak with many different households.

### POTENTIAL IMPLEMENTATION APPROACH

- Neighborhood engagement events which potentially include free food and devices.

### POTENTIAL METRICS

- Number of people reached through recorded touchpoints.



*"I recommended my neighbor [for the pilot program], she has a son and he's in school too."*

*-Tanequa*



# Digital Navigators

## Serving as Trusted Coaches to the Ecosystem of Services

### VISION

Digital Navigators are trusted guides who assist community members in internet adoption and the use of computing devices.

Digital navigation services include ongoing assistance with affordable internet access, device acquisition, technical skills, and application support. (NDIA)

### DESIRED BENEFITS

- Connectivity of broadband internet options
- Access to proper computers, tablets, or other equipment
- Providing information about digital literacy training

### KEY FEATURES

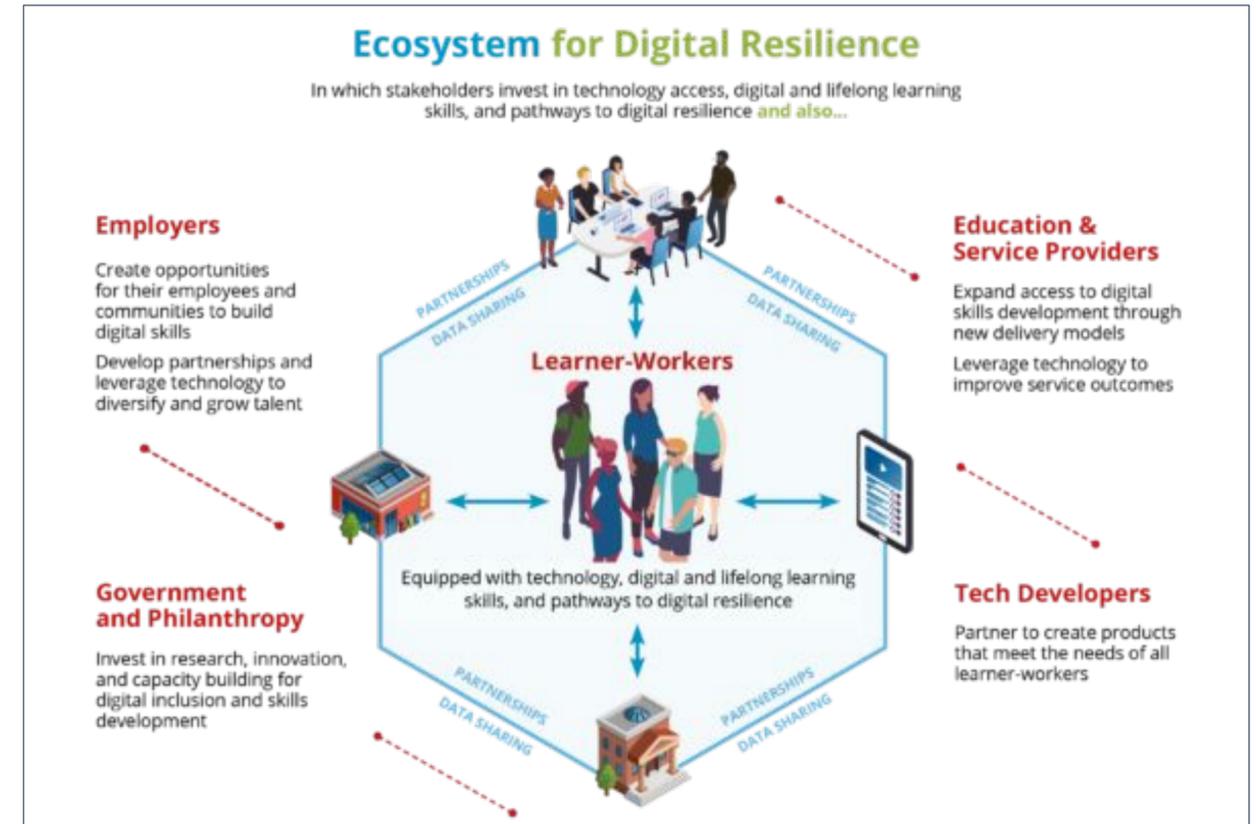
- Introduction to technology and use in everyday life
- Support with using technology at work and developing career skills

### POTENTIAL IMPLEMENTATION APPROACH

- Training Digital Navigators through a course
- Setting up spaces in libraries for Digital Navigators to meet with residents

### POTENTIAL METRICS

- Number of people reached through recorded touchpoints.
- I rise in connectivity for these areas, especially with Seniors and New Americans



**EBB Brandon**

*“Since I've been on a program that allows me to pay my WiFi bill. It feels nice, like I'm part of society.”*

*– River*



# Internet Comparison Tool

## Empowering Residents to Have Agency of Choice

### VISION

The Internet Comparison Tool helps find affordable plans and understand speed in a transparent way that does not favor any option over another.

### DESIRED BENEFITS

- Informs residents of their WiFi options (including low-income plans that can be hard to find)
- Shows residents how to use speed tests to ensure they are receiving what they are paying for.

### KEY FEATURES

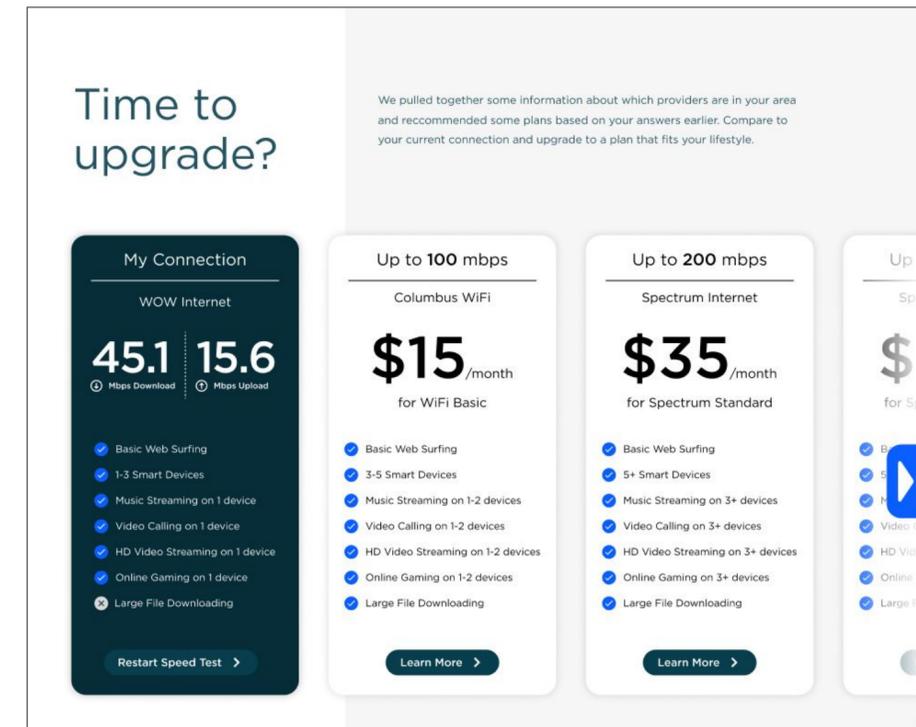
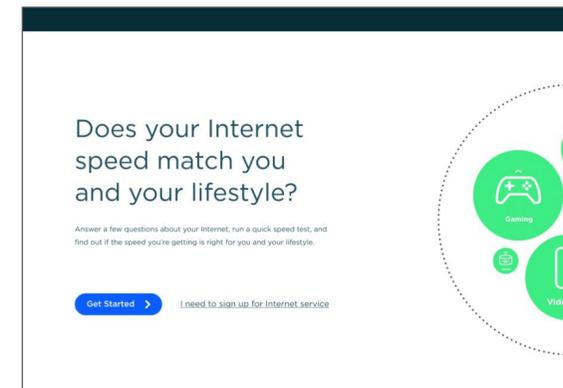
- Non-bias tool - does not receive revenue for promoting certain companies over others.
- Includes a speed simulator for helping to understand how much speed a household might need.

### POTENTIAL IMPLEMENTATION APPROACH

- Tool used and advocated for by Resident Ambassadors and Digital Navigators
- Disseminated through mass email of trusted partners

### POTENTIAL METRICS

- Awareness measured by website visits
- Effectiveness measured by take-up rate of pilot programs and long-term fiber option.



Content of Mockup Prototype



*“Consider how many devices you are using and what they are using it for. Go with the cheapest that fits and meets your needs.”* – Kristen



A person's hand is holding a smartphone, with a laptop and a coffee cup visible in the background. The scene is set in a modern office or workspace with large windows in the background.

# Deepen Understanding of Use Cases & Demographics

Recommendation 4

# Telehealth Adoption

INITIAL SOLUTION #7

## Providing Convenient and Accessible Health Care Options

### VISION

An online appointment allows residents a health care option that is more accessible, convenient, and safer.

### DESIRED BENEFITS

- A more accessible option for health appointments
- Eliminating the time for commuting and waiting room time for appointments.

### KEY FEATURES

- Virtual conferencing for face-to-face care
- Healthcare information that is more integrated into technology

### POTENTIAL IMPLEMENTATION APPROACH

- Partnering with OhioHealth, **Primary One** and OSU Wexner Medical Center

### POTENTIAL METRICS

- Total Telehealth visits

LEARN MORE AT [OhioHealth.com/Smart](https://OhioHealth.com/Smart)

**WHEN TO GO TO YOUR PRIMARY CARE DOCTOR**  
For routine concerns, wellness screenings and sick care.

- Preventive, wellness and illness care
- Care for newborns, infants and adolescents
- Anxiety, depression and mood disorders
- Annual health screening examinations
- Management of chronic diseases and conditions
- Sick visits
- Immunizations
- Comprehensive physical examinations for all ages
- School and sports physicals

**WHEN TO USE VIRTUAL HEALTH**  
A convenient option for basic needs and follow-up care.

- Pinkeye
- Cold symptoms
- Blood glucose (diabetes) concerns without symptoms
- Rash
- Vaginal itching or discharge with no sexually transmitted disease concerns
- Skin infections
- Fever
- Blood pressure concerns
- New or acute back pain
- Burning, frequent or urgent urination
- Cellulitis concerns

*Video visits are available for urgent care needs and to patients with an OhioHealth primary care provider.*

**WHEN TO GO TO URGENT CARE**  
For immediate needs that are not life-threatening.

- Cold or flu-like symptoms
- Rashes
- Minor breaks, sprains and strains
- Animal or insect bites
- Urgent Care Same Day Video Visits available.
- Minor burns
- Minor cuts
- Allergic reactions

**WHEN TO GO TO THE EMERGENCY DEPARTMENT**  
For life-threatening conditions and severe injuries.

- Severe head injury
- Stroke
- Persistent shortness of breath or wheezing
- Persistent chest pain
- Major cuts/severe bleeding
- Major burns
- Major breaks, sprains and strains

Manage your health on your time, with **OhioHealth MyChart**.

It's simple, secure and available 24/7

- Schedule appointments
- Communicate with your providers
- View test results
- Request prescription refills
- Use it for video visits and E-Visits
- Review your health record and care plans
- Pay bills

Easily access MyChart in the OhioHealth app. Download today!

Download on the App Store | GET IT ON Google Play





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*"I do telehealth a lot; don't like to go to the doctor's office for 5 minutes because it takes me away from work."*

– Cierra



# Device Donation Service

INITIAL SOLUTION #7

## Distributing Needed Devices and Equipment

### VISION

A scalable system of donating, refurbishing, and distributing devices to equip households with necessary technology for their tasks.

### DESIRED BENEFITS

- Offering those with in need of devices the appropriate equipment to help them with their tasks

### KEY FEATURES

- A continuous process of donations, refurbishments, and distributions of sought after devices.

### POTENTIAL IMPLEMENTATION APPROACH

- Multiple CBOs involvement will ensure a more sustainable and outreaching program

### POTENTIAL METRICS

- Amount of Devices distributed
- # of households reached through device access programs



*“[quote about devices]”*

—





# Adopt Human Centered Approach for User Testing, Prototyping & Resident Engagement

Recommendation 5

# Program Management

INITIAL SOLUTION #6

## Delivering Streamlined Operations and Collaborative Planning

### VISION

Smart Columbus working as a central figure for closing the Digital Divide would support a more collaborative effort for impact.

Ideally, the brand would begin to be perceived as a trusted community organization that is active within the Greater Columbus community.

### DESIRED BENEFITS

- Acts as a backbone for supporting coalition initiatives

### KEY FEATURES

- Leveraging key partnerships in both the public and private sectors
- A central place for receiving and distributing resources within multiple workstreams

### POTENTIAL IMPLEMENTATION APPROACH

- Expanding the internal team for improved efficiency
- Expanding our partners for leveraging impact in the community

### POTENTIAL METRICS

- Total funding sourced through the organization
- Large-scale connectivity metrics from the City



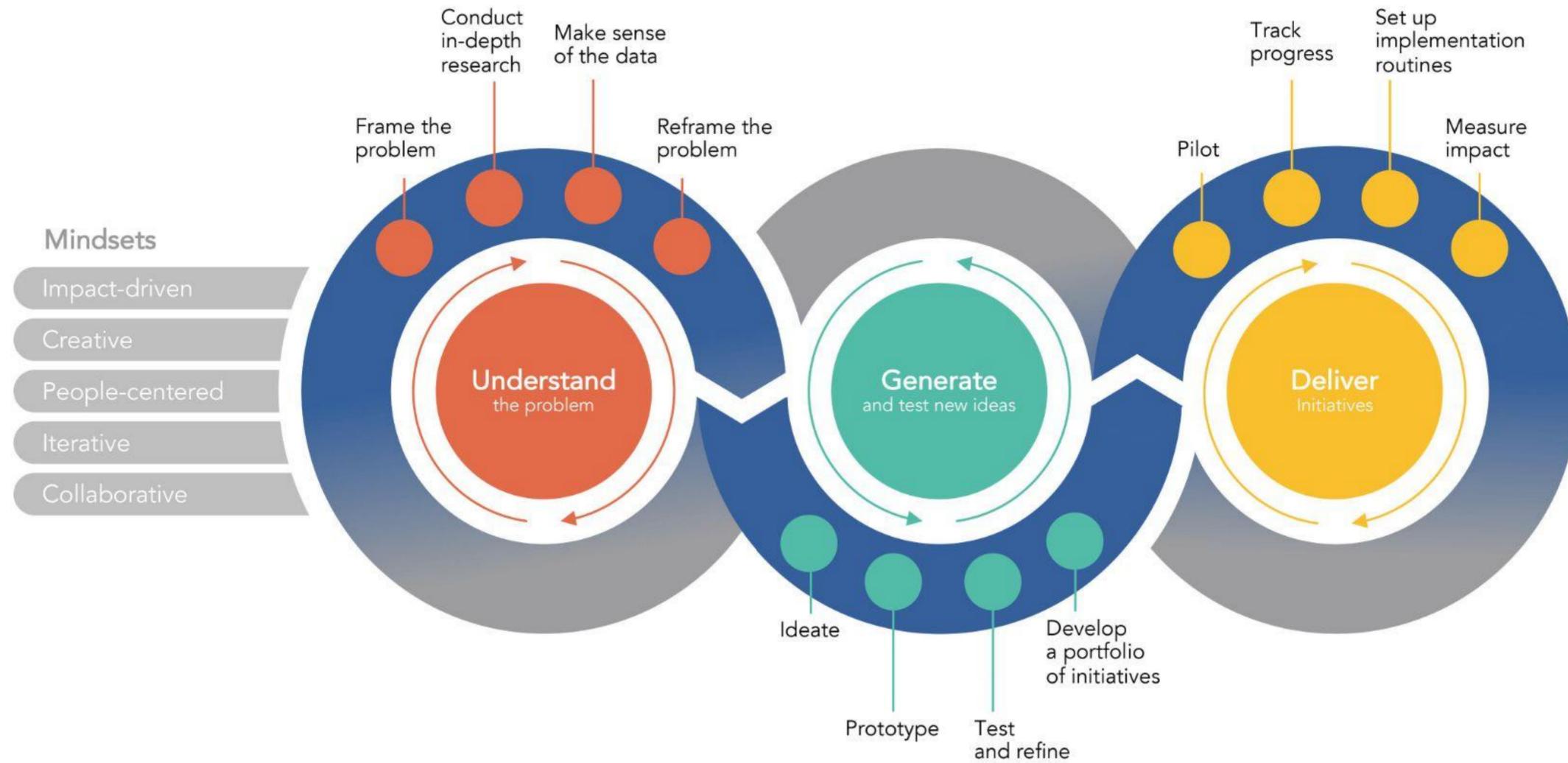
*“It doesn’t matter to me who is running the program. Internet is a necessity.”*

*– Mey*



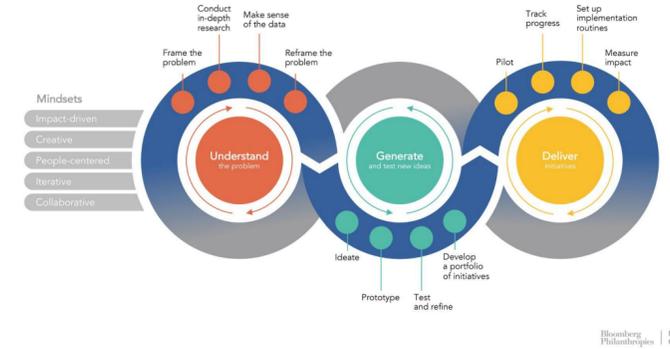
# Process & Mindsets

## Our Approach to Human-centered Design



# Process

## Understand the problem



### FRAME THE PROBLEM

### CONDUCT IN-DEPTH RESEARCH

### MAKE SENSE OF DATA

### REFRAME THE PROBLEM

#### Define Learning Goals

Understanding the context of stakeholder priorities. What makes this information helpful?

#### Plan Resident Engagement

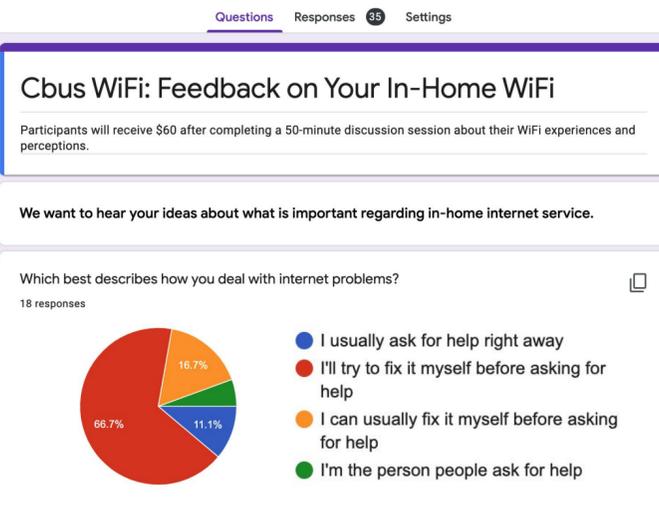
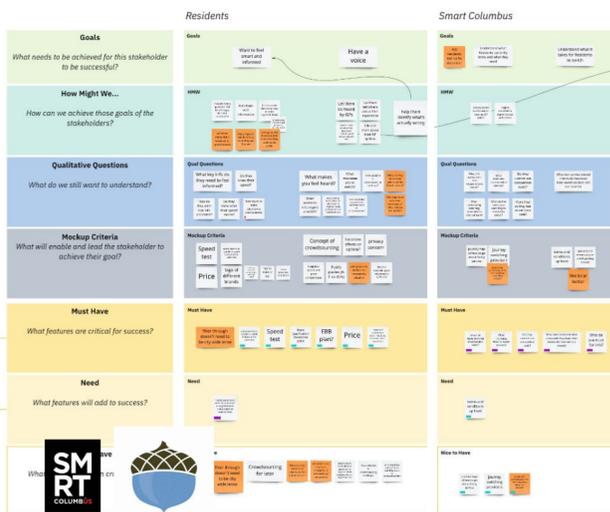
Discussion Guide and Recruiting. Who do we need to involve? What do we need to ask?

#### Facilitate Interviews/Co-Design Analyze

Facilitating one-on-one interviews or co-design sessions. Organize quotes into high-level categories and begin to identify themes.

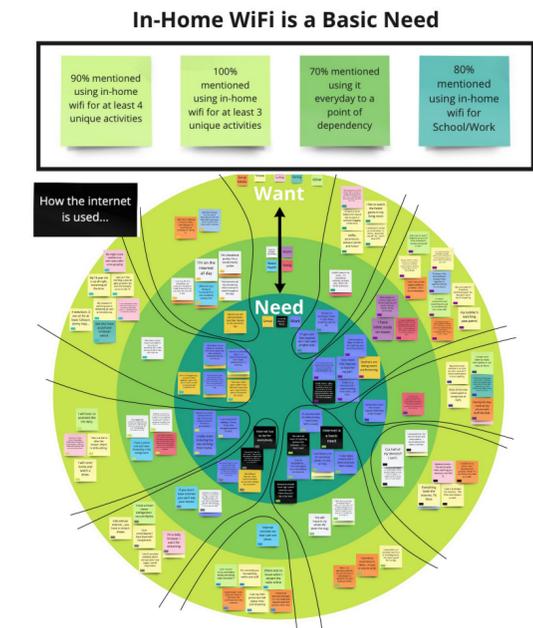
#### Synthesize

Finalize key insights with statements that can be traced back to the participants.



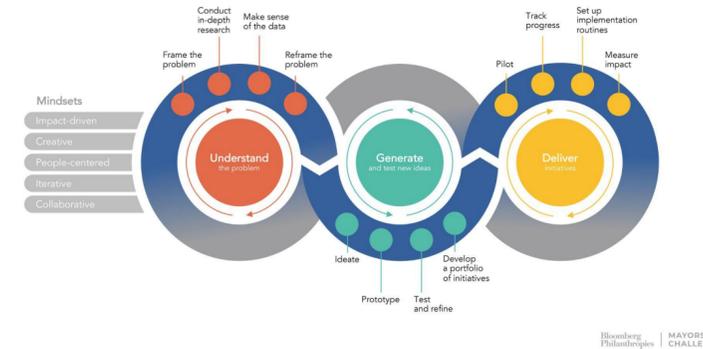
**I don't have high expectations associated with free**

- Free internet doesn't have to be the "highest" (quality) but the most consistent as we're streaming
- If it's free that's fine but if it isn't consistent, I would use it in conjunction with my internet plan. But after, if I saw that it was reliable, then I would keep it.
- If it is free, does it affect the quality?
- You can have something low, medium and high. So are we going to get the lowest as part of the free internet, and then you have to pay for the medium and high?
- My hesitancy isn't about it being free, it is more on consistency.
- Does free come with support especially if there is no income to support it? Support meaning upkeep with the equipment like servers. My fear is of stuff slowly degrading.



# Our Process

## Generate and test new ideas



### IDEATE

### PROTOTYPE

### TEST & REFINE

### DEVELOP A PORTFOLIO

#### Ideate & Co-Design Concept

Brainstorming solutions. Based on the previous research what would mitigate the problems?

#### Create Design Brief

Planning for more feedback. What more must we know to determine its effectiveness?

#### Build Prototype

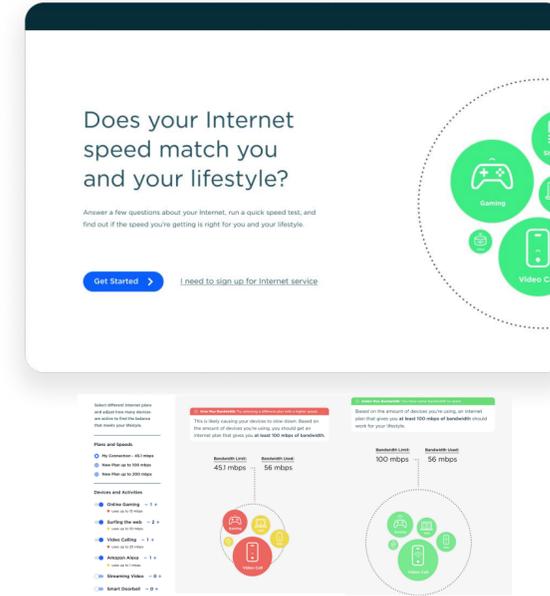
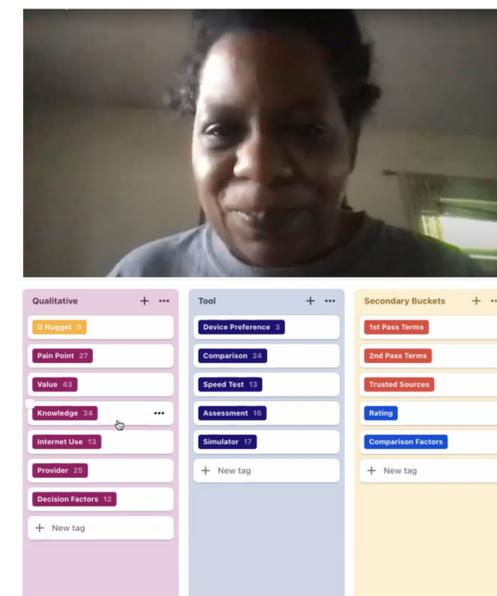
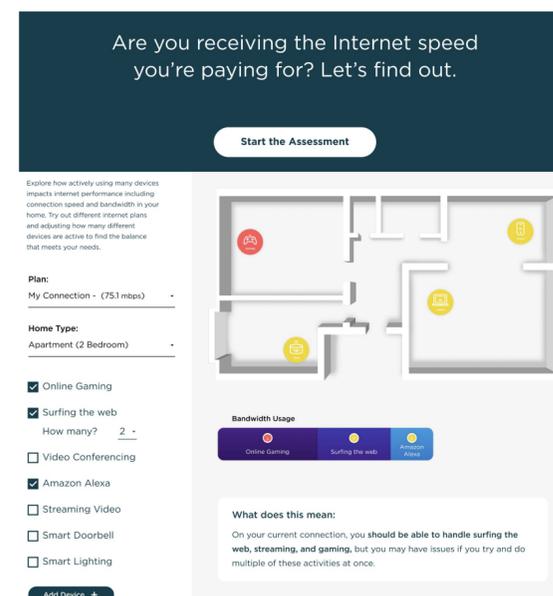
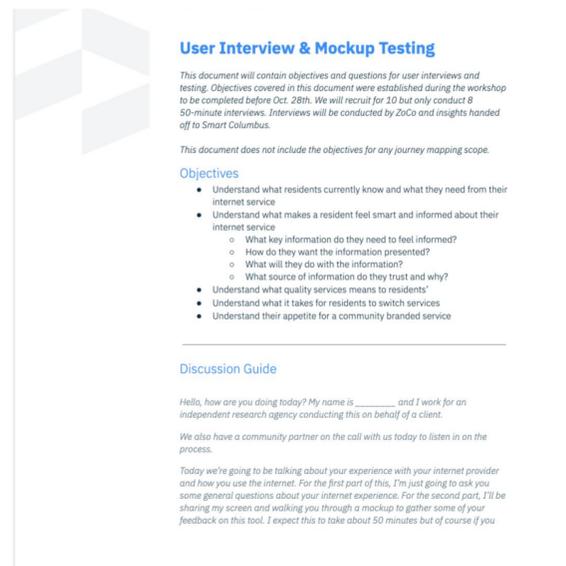
Creating a low-fidelity mockup. What new problems arise as we become more aware?

#### Engage Residents

Receiving Feedback. What would make this solution more beneficial to its users?

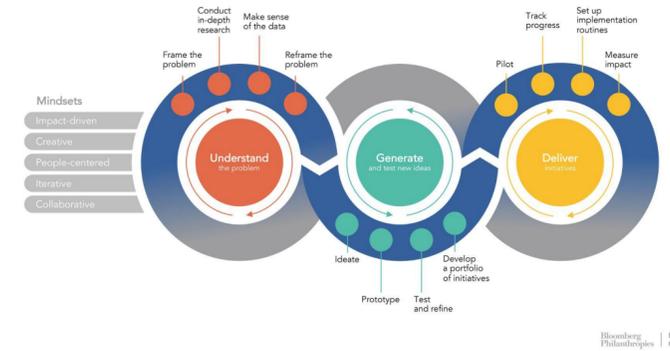
#### Refine Brief & MVP

Responding to user feedback. What are the next steps for implementing a helpful solution?



# Our Process

## Deliver initiatives



### PILOT

### SETUP IMPLEMENTATION ROUTINES

### TRACK PROGRESS

### MEASURE IMPACT

#### Build Implementation Plan

Preparing for delivery. Based on developed portfolios how can this be best achieved?

#### Design Messaging & Collateral

Promoting Awareness. In what way will users be most motivated to try this product or service?

#### Establish Partnerships

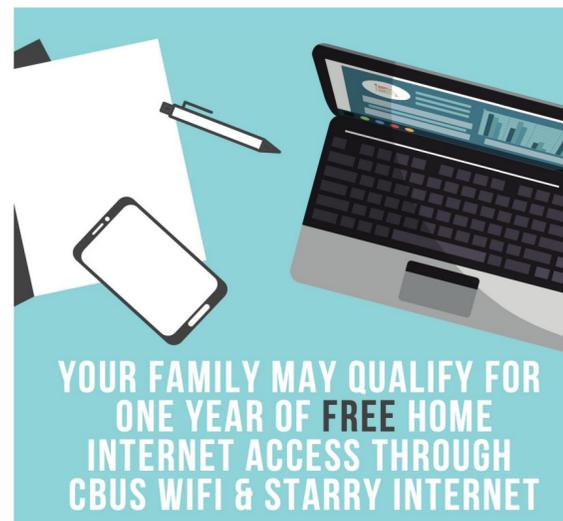
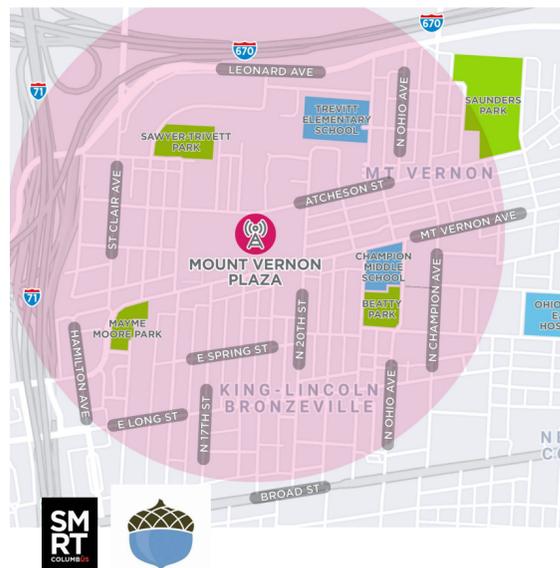
Driving Adoption. What partners could best help the growth of this product or service?

#### Engage Residents

Receiving Feedback. What would make this solution more beneficial to its users?

#### Refine Brief

Reflecting on user feedback. What metrics best evaluate our successes/shortcomings



**Starry / Columbus Pilot**  
**King-Lincoln Bronzeville Insights**  
 Insights retrieved from the KLB Beta Pilot Design Sprint (10/12-10/21) October 2021

**Overview**

- 5 Total Interviews (4 adults, 1 minor)
- 4 Activated Households Interviewed
- 46.68 mbps Average Recorded Download Speed
- 4.7 Average Satisfaction Rating (from 1-5) regarding speed & reliability (What are your WiFi Service priorities? 'Reliable is first, and then affordable')

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**Serviceable Requirements limit Participants**  
 45% of participants were not serviceable due to location restrictions (31 total interested participants)

**People are Satisfied with their Service**  
 100% of participants were satisfied with their WiFi.

- "It's been a month or so. I've had no issues, only once with the TV. [L] Yes, very reliable"
- "My kids are happy, 'chuckle' Everything is so quiet. [L] So far this WiFi is better than what I had before!"
- "I don't have any issues"

**Participants Appreciated the Good Customer Service**  
 100% of adults mentioned having good interactions with Starry staff.

- "I only had one question and it was answered quick in a mannerly way"
- "I do want to give a shoutout to this young man. I don't remember his name. He was so nice and professional."