Reliable and Affordable Broadband Internet for All

Final Report: December 8, 2021

Khotan Harmon, 2021 Leadership Austin Digital Inclusion Fellow
Telecommunications & Regulatory Affairs (TARA)
City of Austin

What is digital equity

"Digital inclusion is the ability of individuals and groups to equally access and use information and communication technologies affordably, efficiently, and reliably along with digital training, resources, and skills needed to fully participate in a digital society."

- Digital Empowerment Community of Austin (DECA)

How we got here

- Insights from Lived Experience of Austin residents from CTTC Special Conversation
- Goal of the Community Technology & Telecommunications Commission Work Plan
- Experience from Previous City-supported projects & COA Digital Inclusion Strategic Plan
- Impact from COVID-19 Virtual Pivot
- Application to Leadership Austin and funded by St. David's Foundation (THANK YOU!)

Results of inputs:

- Khotan Harmon named LA Digital Inclusion Fellow
- Framed out the goals and inquiry areas for the project
- Aligned current City program staff to support Fellow and coordinated activities underway for project
- Identified initial stakeholders to engage in project

Project scope: Reliable and Affordable Broadband for All

Project Goals:

Our community needs a fellow to assess, identify and develop viable longer-term solutions to address the problem of digital equity to ensure reliable, affordable broadband for all. The availability of the internet is critical to participate in a growing digital society and to provide equitable, educational, job and economic opportunities and access to healthcare.
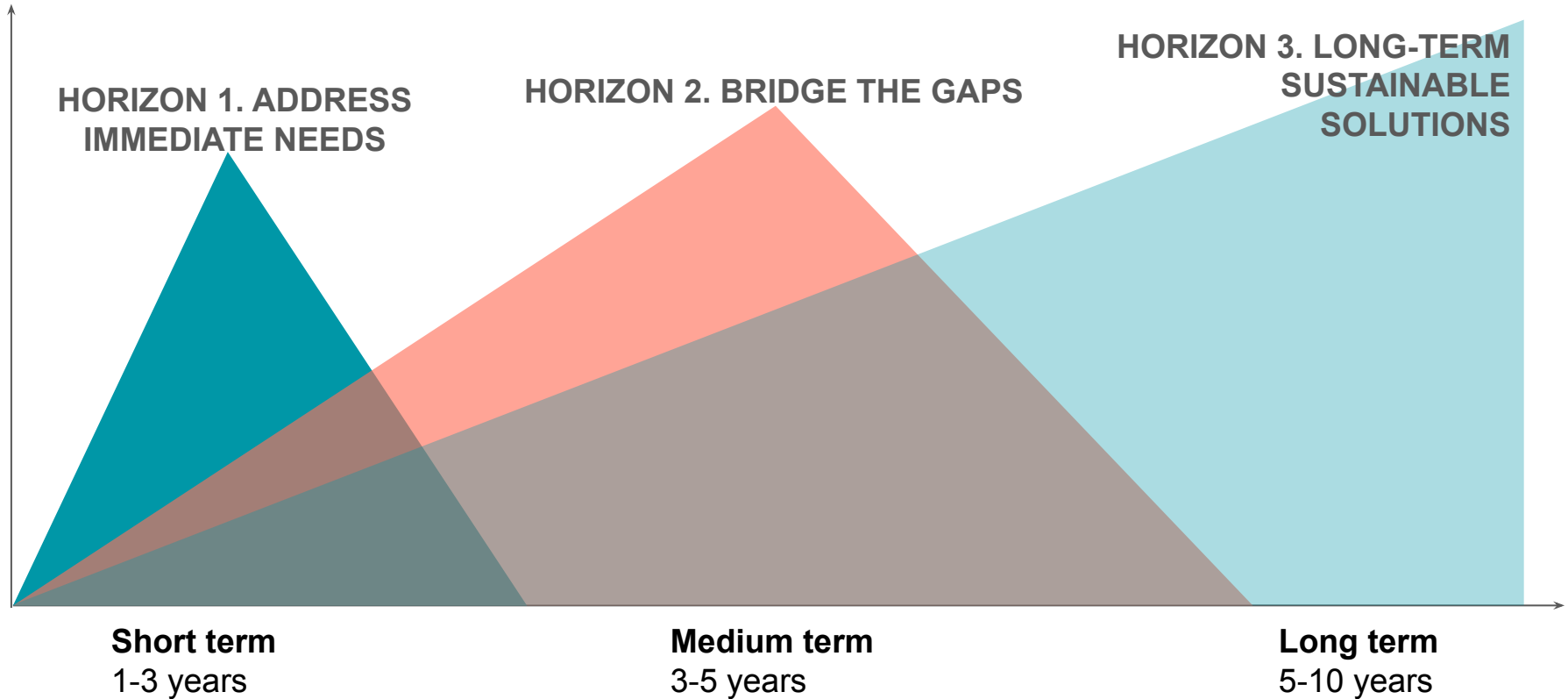
Deliverables:

Report #1: Community asset mapping and survey of existing data on the mapping and speed of private broadband infrastructure and reasons for barriers to broadband adoption.

Report #2 - Feasibility Plan based on models and best practices nationally that could be offered as a possible solution in Austin for affordable reliable broadband for all in Austin.

Stakeholder engagement - Reactivated, engaged and collaborating cross-sector of stakeholders in a wide-reaching and community-wide effort.

A 3-horizon view of the challenge and solutions

HORIZON 1. ADDRESS IMMEDIATE NEEDS

HORIZON 2. BRIDGE THE GAPS

HORIZON 3. LONG-TERM SUSTAINABLE SOLUTIONS

Short term
1-3 years

Medium term
3-5 years

Long term
5-10 years

GAATN - Longer Term Collaboration

- The Fellowship was designed to evaluate and engage **GAATN (Greater Austin Area Telecommunications Network) for possible digital equity solutions**. That didn't work out the way it was planned!

"GAATN was created pursuant to Section 791.001 et seq. of the Interlocal Cooperation Act of the Texas Government Code. Participants served by the network are limited to governmental entities with valid governmental purpose that would be served by construction and operation of the network to provide state-of-the-art technology communications capability while achieving economy of scale. No private individuals, associations, corporations, or any other non-governmental entity may be included.

Furthermore, a participant may not lease, assign, license the use of, or provide capacity on any portion of the network (including, without limitation, individual strands or bandwidth) to a private individual, association, or corporation expect as necessary to facilitate a governmental use by or on behalf of the participant owning the network rights." ~ Frank Ammons, Communications & Technology Management, GAATN Network Manager

Assumptions and Challenges

- **The Fellowship was quickly reimagined** as a "Digital Inclusion" Fellowship focused on underlying causes and issues, with an equity-mindset, focused on sustainable, community-driven solutions.
- **The Hidden deliverable** - "Tell me what the problem is!"
- Refocused: **Data-driven!** What does the data tell us about the problem?
- Defined data: **Quantitative, qualitative, including lived-experience.**
- Challenge: **COVID survey fatigue!** How to engage and ensure a robust response from the community when they are overwhelmed with surveys about their COVID experience?
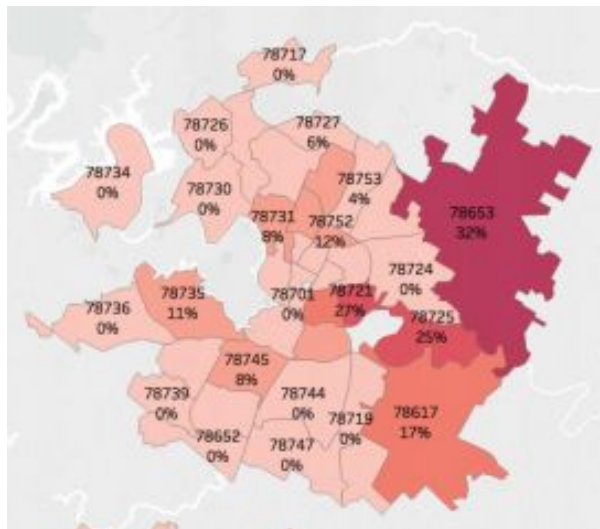
Central Driving Question:

How do we identify, reach and engage Austinites who are most isolated from the resources and services of the City?

WHAT was the problem Pre-COVID and WHERE does it exist?

Survey respondents without a home internet connection, 2018

Source:

95% of Austin residents use the internet at home* -- but this number **masks disparities between communities and levels of access.**

According to the data, the communities that tend to face the highest barriers to digital access:

- Communities of color
- Low income individuals and families
- Older adults
- Limited English Proficiency
- People with disabilities

Smartphone use is widespread. But **device gaps exist for education, employment, and health uses**.

Affordability and **skills** gaps are the **primary barriers** for people who do not use the internet.

*any device, any type of connectivity

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Data-Driven: What is the Current Reality of Digital Inclusion & Equity

- **(Analyzed) American Community Survey (ACS) - Children's Optimal Health** - (completed November 2021) Analyzed and created a series of filterable data tables based on ACS 2019 5 year average data. Using data provided by the City of Austin, the tables include Census Tract IDs, Council District ID, and ZIP code associated with the Tract. data table based on ACS 2019 5 year average data related to internet access/devices.
- **(Verified) Tech Enabled Survey - Childcare Providers** (Completed September 2021) - United Way, Workforce Solutions Capital Area, Workforce Solutions Rural Area, licensed centers, licensed family homes, registered family homes on digital inclusion: affordability, connectivity, devices, training, IT support.
- **(Lived Experience) Residential Technology Qualitative Survey** - **Measure Austin** - (Community Lived Experience) - (In progress, Q3 2021- February 2022) - Measure Austin and AUTM (Austin Urban Technology Movement) in collaboration with Dr. Reyda Taylor, a data scientist consultant, conducting community lived experience with residential technology access, affordability, adoption, devices, training, barriers and needs. To ensure a deeper dive
- **(Region-wide) Residential Technology Quantitative Survey** - **Being Explored with Travis County** - (Q1 2022) - County-wide Quantitative residential technology survey in partnership with Travis County on affordability, access, adoption, devices, training, barriers and needs.

Guided by A Common Vision: Alignment with Austin City Council priorities for relief and recovery

Outlined in [Resolution No. 20210325-111 (March 25, 2021)](#)

- **Homelessness**, and related housing, mental health, and substance abuse issues
- **Early childhood care and education** that is high quality and affordable
- Jobs for working class Austinites that include good wages, benefits, and workplace protections, and associated **workforce development** and work programs
- **Food and housing insecurity**

Key learning:

- With the attention and significant resources of the City ($106.7 million in American Rescue Plan Act funds) focused on resolving homelessness and related challenges, we turned our attention to the three remaining Austin City Council priorities, with interesting emerging data.
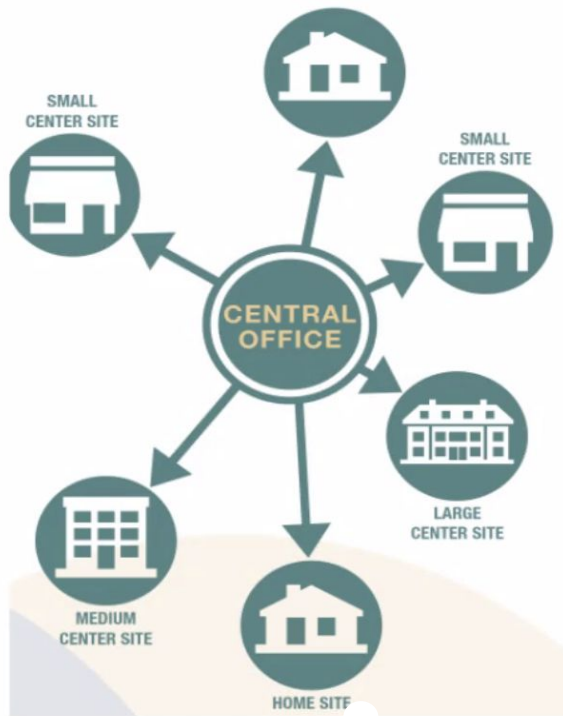
Emerging Priority: Childcare - 2000 Days!

- 2000 Days between birth and Kindergarten! Build quality foundation for children, and support families and strengthen communities by allowing parents to participate in the workforce that will ensure continued economic growth and resilience for communities.

- **<u>34,000 children under the age of six living in poverty in the Austin area</u>**.

- Currently there are only **3000 child care spots available** for these children in regulated child care programs, centers, and family care across the region, which include registered homes, licensed homes, and licensed centers.

- There are **429 licensed child care providers and 134 registered family child care home practitioners,** with only 31 of whom accept subsidies. 80% of child care centers have 20 employees or fewer.

- **5% of licensed centers permanently closed** and **10% of licensed/registered homes** permanently closed their businesses. Another 8% of centers and 12% of home-based providers were temporarily closed.

- <u>Strategies and Solution aligned with Council Priorities on economic recovery and resilience</u>:
  - **Early Childhood Shared Services Model** - "Back Office" for all day care businesses regardless of their size or zip code
  - **Child care as gateway to workforce development** - childcare center and home based day care programs need coaching and mentorship to become highly functioning small businesses, start, restart jobs, create jobs, become licensed, registered high quality care businesses to attract caregivers accessing their services.

What is Tech-Enabled Shared Services?

- Shared Services builds capacity by identifying common needs and creating a structure to share resources (staff, technology, information, funds) among a network of centers or homes.

- Technology plays a key role in enabling these services to be done efficiently and effectively.

SMALL CENTER SITE

SMALL CENTER SITE

CENTRAL OFFICE

LARGE CENTER SITE

MEDIUM CENTER SITE

HOME SITE

Source: Sx6ATX

Tech-Enable Survey Results

61 amazing providers responded!

Local Workforce Board Contract With:

	Number	%
Both	31	51%
Workforce Solutions Capital Area	25	41%
Workforce Solutions Rural Capital	4	7%
Neither	1	2%

Type of Program:

	Number	%
Licensed Center	55	90%
Licensed Family Home	4	7%
Registered Family Home	2	3%

Survey: September 2021

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# Digital Inclusion/Access Needs

My Program Needs Help With
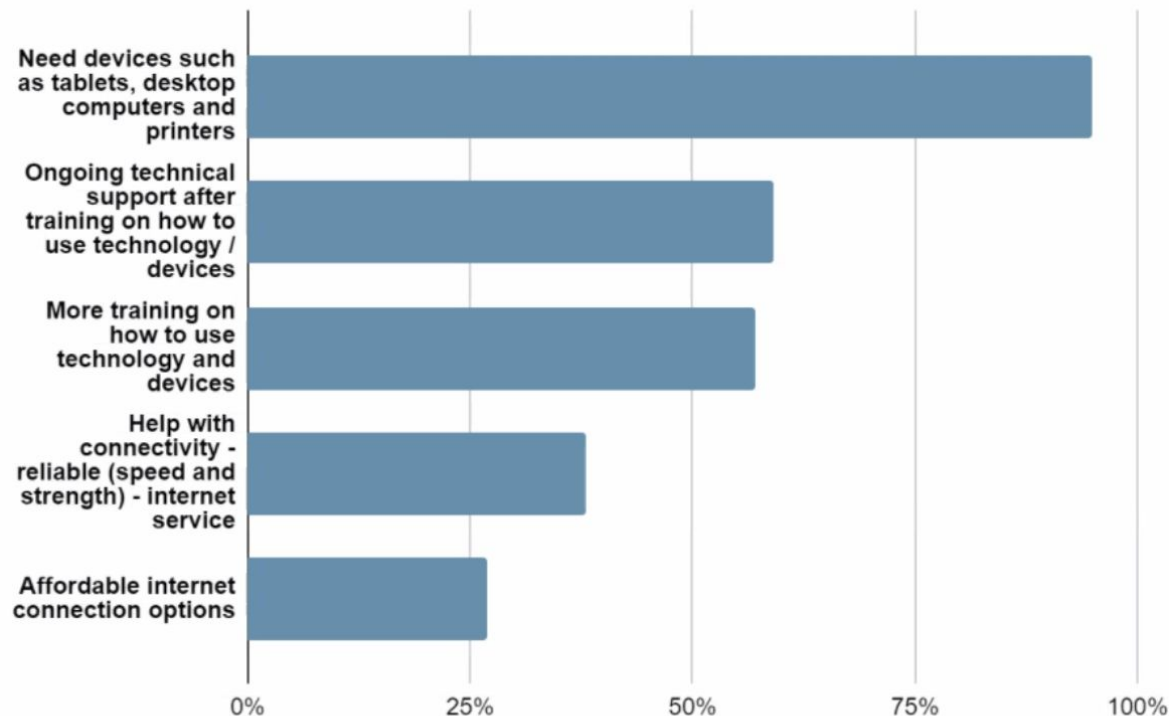
Tech-Enabled Shared Services

- **Shared Services Committee** - Members include City of Austin Child Care Council Chair, childcare center and home-based business experts, United Way, Travis County, Workforce Solutions Capital Area, Workforce Solutions Rural Capital Area, Avance, and TARA Digital Inclusion Fellow, with support from Austin Public Health.
- **Conducted Tech Enabled Survey** - Childcare Providers (Completed September 2021) - United Way, Workforce Solutions Capital Area, Workforce Solutions Rural Area, licensed centers, licensed family homes, registered family homes with a section on digital inclusion: affordability, connectivity, devices, training, IT support needs.
- **Virtual focus groups** - Conducted virtual focus groups for everyone who completed the survey to review the findings.
- **Tech-Enabled Shared Services Alliance Co-Design Team** - Consultants are starting to facilitate a co-design team that will include between 5-6 local child care providers. Focus on diverse representation of program size, location and leadership.
- **Funds allocated** - City allocated $11 million of American Rescue Plan Act (ARPA) funds to child care and family support services. Of this, $750K are going to support the shared services alliance.
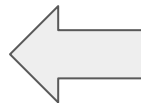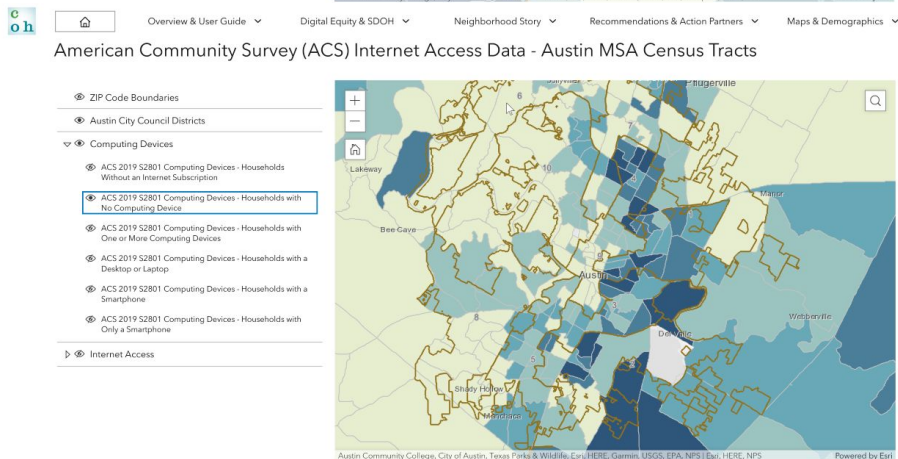
ACS Data Analysis - Children's Optimal Health
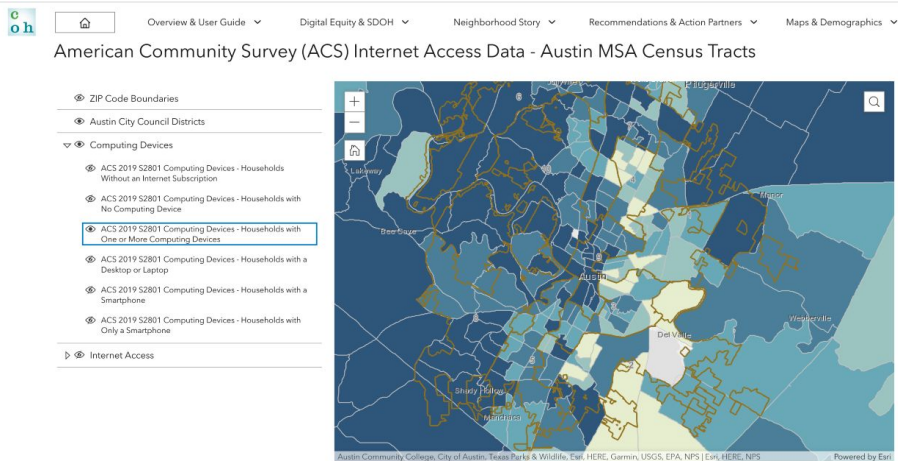
COH Analyzed and created a series of filterable data tables based on ACS 2019 5 year average data. Using data provided by the City of Austin, the tables include Census Tract IDs, Council District ID, and ZIP code associated with the Tract with data related to internet access/devices.
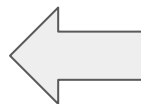
Households with One or More Computing Devices

Households with No Computing Device

ACS Data Analysis - Children's Optimal Health

Households with NO Internet Access
(Availability)

Households with Internet Access
but NO Subscription (Adoption)

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Data-Analysis: American Community Survey (ACS)

- **American Community Survey (ACS) - Children's Optimal Health** - (completed November 2021) Analyzed and created a series of filterable data tables based on ACS 2019 5 year average data. Using data provided by the City of Austin, the tables include Census Tract IDs, Council District ID, and ZIP code associated with the Tract with data related to **internet access/devices**.
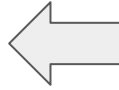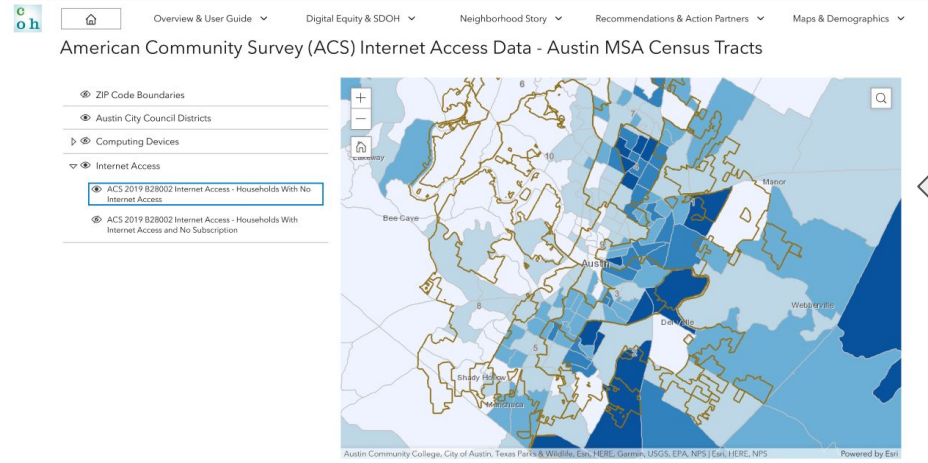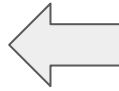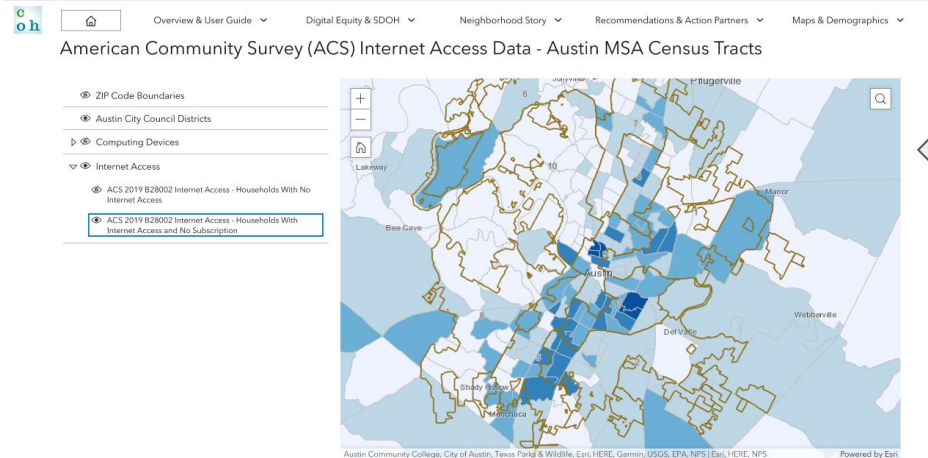- **How granular to go** - The more you slice the data, the less reliable it becomes (race, ethnicity, age, income, etc.) **Uncertainty over when we lose reliability of the data**.
- **Professional tool** - Challenge of **what should be publicly available** and what should be used internally by the city demographer, economic development department, planning, innovation office, equity office, etc.

Digital Inclusion: Recommendations/Next Steps/Sustainability

Planning for Digital Inclusion in Texas

UT Law: Texas Black Caucus Foundation and Civil Rights Clinic

- Access to Affordable and Reliable Broadband

- Access to Internet-Enabled Devices

- Access to Digital Literacy Training

- Access to Technical Support

- Improved Data Collection and Analysis

- Grants to Local Communities

- Public-Private Partnerships to Advance Digital Inclusion

Brief Demo of Experience Build for Digital Inclusion

COH Recommendations

- Austin should provide national leadership by example in addressing issues of digital inclusion and equity

- Those incorporating a focus on diversity, equity, and inclusion (DEI) should integrate action toward digital equity

- Those addressing SDOH should include mechanisms to screen for and monitor their clients' access to digital technology, literacy, and skills

- Develop capacity for local metrics associated with broadband accessibility, reliability and speed testing are needed

- Anchor organizations should work across sectors to enhance digital access and equity

- Fund trusted digital navigators to assist priority population members with technology

- Anticipate that achieving digital equity will be an ongoing process as technology evolves

children's
optimal health
visible changes for a healthy future

Qualitative Survey: Community Lived Experience

- Measure Austin, Austin Urban Technology Movement (AUTM), Dr. Reyda Taylor
- Total **number of focus groups: 8** (one in person)
- Focus Group dates: **December 2021- January 2022**
- 40% of focus group participants are 35 and under, 40% between 36 and 55, and 20% over 55 years old.
- 45% of the participants are male and 55% are female.
- Of those who responded to the income question (50% of selected participants), 30% make under $30k, 50% make between $30k and $70k, and the rest over $70k.
- 22% are retired, 33% unemployed and 45% employed.
- Focus groups are conducted in **English, Spanish,** and other languages as needed through translation, e.g. **Dari and Pashtu** for Afghani refugees.

Qualitative Survey: Sample Questions

Internet and Technology Use:

- How do you access the internet?
- What distance do you have to go to access the internet?
- What places other than the public library would be useful? (i.e. churches, cafe, etc.)
- How has the pandemic affected your access to the internet?
- What are your experiences with accessing or learning about technology?
- How do you find out about new technology?
- What programs or organizations do you currently use for accessing technology?
- What are your needs to address or improve digital acumen/literacy?
- How does your access to technology impact your employment or learning?
- Are you working/learning remotely?
- What would you like tech or internet companies to do to improve your access to the internet?
- What questions have not been brought up that you would like to ask?

Digital Inclusion and Equity:

- What do YOU believe the problem is with accessing the internet and technology?
- Historical accounts: What do you remember or know that is a possible contributing factor to the problem/topic today?
- What is the history as it relates to the problem?
- What adverse experiences have happened in relation to this problem?
- What major policies are related to the problem being addressed and trauma in the community?
- Why hasn't the issue been solved through previous efforts?
- Experience Around Digital Access

Quantitative Survey: Residential Technology Survey

- **City of Austin is Exploring Partnership with Travis County** - (Q1 2022) - County-wide quantitative residential technology survey in partnership with Paul Hopingardner the County Executive for Technology and Operations of Travis County.
- **Focus of survey** - Affordability, access, adoption, devices, training, barriers and needs for residential technology use, digital inclusion and equity.
- **Exploring options** - Currently starting the process of scope and scale, financial investment, procurement and vendor procurement process identification.

Community Engagement

Exploring Sustainable Cross-Sector Solutions

Community
Project Leadership

Community Tech & Telecom Commission

Government
Resources and Stewardship

Business
Critical to Sustainable Solutions

Academic & Technical Institutions
Data driven process, product, and ROI

Social Service Sector
Service Delivery Expertise
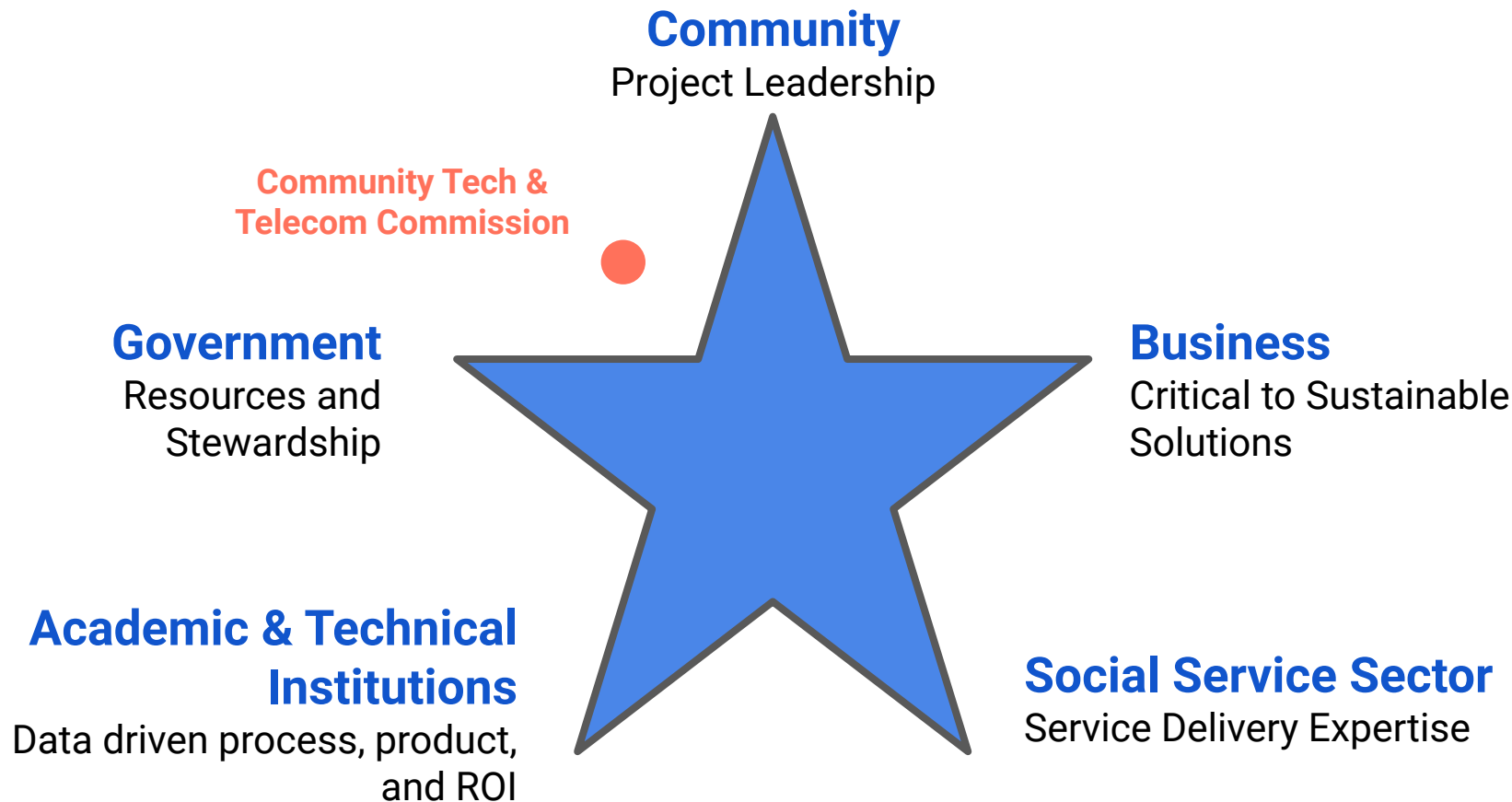
Stakeholders

- **Stakeholder engagement** - "Reactivated, engaged and collaborating cross-sector of stakeholders in a wide-reaching and community-wide effort."
- **+400** Cross-Sector stakeholder one-on-ones, meetings, presentations
- Community and community groups
- Social Services Sector
- Academic and Technical groups and institutions
- Government - National cities; Texas: state, counties, local
- Businesses and the private sector

Stakeholders - Community

- Austin Broadband Access Legislative Action Working Group
- CTTC - Community Technology and Telecommunication Commission
- DECA - Digital Empowerment Community of Austin
- Early Childhood Council
- Early Childhood Shared Services Taskforce
- GAATN - Greater Austin Area Telecommunications Network - Technical Board
- Social Inclusion Taskforce (City and Central Texas Region)
- St. David's Foundation

Stakeholders - Social Services Sector

- AGE of Central Texas
- American Youthworks
- Austin Film Society
- Austin Free Net
- Austin Urban Technology Movement (AUTM)
- AVANCE
- Book Spring
- Capital IDEA
- Changing Expectations (STEM)
- Community Action Network (CAN)
- Community Technology Network (CTN)
- E4Youth
- El Buen Samaritano

- Family Elder Care
- Foundation Communities
- Goodwill
- Greater Austin STEM Ecosystem
- Housing Authority of the City of Austin (HACA)
- Latinitas
- Mission Capital
- OATS/AARP (Senior Planet)
- Road-to-Hire
- United Way of Greater Austin

Stakeholders - Academic and Technical

- University of Texas - Austin - Dr. Sharon Strover, School of Journalism and Media
- University of Texas - Austin - Dr. Bo Xie, Professor School of Nursing; School of Information
- University of Texas - Austin - Dr. Aletha Huston, Professor Emerita Child Development
- University of Texas - Austin - Prof. Sheri Greenberg, professor of practice, State and Local Government at the LBJ School of Public Affairs
- University of Texas - Austin - Dr. Becky Lentz, Faculty Fellow and Adjust Associate Professor, RGK Center for Philanthropy and Community Service
- Huston-Tillotson University - Dr. Beverly Downing, Associate Provost
- Huston-Tillotson University - Dr. Amanda Masino, Chair of Natural Sciences
- Austin Community College - Nicole Haynes, Sidney Campbell, Adult Academic and Career Programs
- Greater Austin Area Telecommunication Network (GAATN) - Technical Board
- Chief Information Officers (CIO) Roundtable - representing the region

Stakeholders - Government

- **City of Austin -** Telecommunications & Regulatory Affairs, Economic Development Department, Communications & Technology Management, Research and Innovation, Equity Office, Office of Civil Rights, Communications and Public Information Office, Austin Public Health, Austin Public Library, Austin Parks and Recreations, Community Technology and Telecommunication Commission, and others.
- **Central Texas Region -** Travis County, Paul Hopingardner, County Executive, Technology & Operations and his team; Capital Area Council of Governments (CAPCOG); Workforce Solutions Capital Area; Workforce Solutions Rural Capital Area.
- **Texas Cities and Counties Collaborative for Broadband** - a statewide collaboration of counties and cities sharing learning, resources, data, policy and practice for broadband in Texas. Partners include: Austin, Travis County, San Antonio, El Paso, Dallas, Harris County and Houston.
- **State of Texas** - Texas Comptroller of Public Accounts, Broadband Development Office, Greg Conte, Director (and his team); Texas State Library and Archives Commission.

Government - City of Austin Interdepartmental

- **Inter-departmental Digital Equity Collaboration** - Telecommunications & Regulatory Affairs, Economic Development Department, Communications & Technology Management, Research and Innovation, Equity Office, Office of Civil Rights, Communications and Public Information Office, Austin Public Health, Austin Public Library, Austin Parks and Recreation, among others.
- **Inter-departmental Technical Advisory Group** - Development Services, Innovation Office, Communications and Technology Management, Communications and Public Information, ATXN video production.
- **Partnering with various departments on funding strategies and innovation**. E.g. Austin Transportation Department and HACA project at Georgian Acres.

Stakeholders - Business

- Greater Austin Black Chamber of Commerce
- Greater Austin Asian Chamber of Commerce
- Greater Austin Hispanic Chamber of Commerce
- Internet Service Providers
- Tech Industry businesses
- Tech Inspired Shared Services companies

Five Pillars of Sustainable Digital Inclusion Solution
Key Drivers of Inclusion and Outcomes

1 **Affordability** - competition in pricing, affordability, bulk purchase, etc.

2 **Internet connectivity** - ubiquitous reliable and high-quality internet connection

3 **Devices** - appropriate devices for appropriate use and age

4 **Training** - training and skill development on the devices that are language and age appropriate

5 **IT Support** - continued digital accompaniment and digital navigation post-training to ensure full adoption, use and mastery of devices.

Models & Best Practices

Learnings from various Best Practices:

- National Collaboratives:
  - National Digital Inclusion Alliance (NDIA)
  - Next Century Cities (NCC)
  - National Telecommunications and Information Administration (NTIA)
  - National Association of Telecommunications Officers and Advisors (NATOA)
  - PEW Charitable Trusts
  - US Ignite
- National Cities:
  - Detroit
  - New York
  - Oakland
  - Portland
- Texas Cities:
  - San Antonio
  - Dallas
  - Houston
  - Texas Cities and Counties Collaborative for Broadband

National Model: Detroit

- **Detroit - Community Governance**
- Community-led, community council (work, study, or live in Detroit), community elections and community governance.
- 5 committees/5 committee **chairs stipend of $5K a year** ($25K).
- **Deep collaboration** with United Way Connect 313 Fund - $30 million raised.
- **Regional work**, close ties to Wayne State for data.
- **Strong corporate sector.** Connect fund seeded by professional golf tournament. Corporate and business partnerships key to sustaining the Digital Inclusion work.
- Ensured values are part of the mission and vision of the work! **Values unite.**
- **Know and identify the strengths** that communities have that can be leveraged (Detroit: equity and mobility issues (automakers), Cleveland community reinvestment).
- **Champion in the Mayor's Office**/Council and coordinate with the State.

National Model: Detroit

- **Creative Funding** -
- Knight Foundation funded a Digital Inclusion staff, embedded in the University of Michigan School of Public Policy Poverty Solutions Initiative. A 2 year position focused on poverty eradication, with a special focus on digital inclusion.
- **Message to funders**: "Don't sell something in digital inclusion. Come with the understanding that whatever you want to partner with us have to be adapt to the local ecosystem and that is very nuanced and complex. Maybe you don't know the answer."

National Model: New York City

- **New York City** - The Pink Mothership!
- **Digital Stewardship Program** - leadership skills, community organizing. Media creation, code, building a small mini wifi network. Boosted the network - the WiFi became the network HUB.
- RISE - **Resilient Communities** and RISE (Resilience NYC CBDGR funding for HUD) 5 community networks to build resilience network. Data backhaul (data connectivity in each neighborhood). Digital stewardship centered around working principles.
- **(Mothership) PNK deployed - $1500 - HUB for a large wireless network** -
  - Ownership and management of that network with the community (making decisions about passwords are with the local community, oversight is on their side)
  - Resilience and succession (teaching people about how the internet can be passed on and sustained indefinitely). No capacity to offer tech support.
- **No one manufactures the PNK Mothership,** and they are not being sold - Created in partnership and agreement to build and maintain and transfer the knowledge and the kit.

National Model: New York City

- **Think about this on a community level NOT individual level.** Communities come on line together, they don't want to come on alone and be in a strange environment . Social circle, community ownership and leadership is key. Ultimate goal it was designed to drive up supply to get demand. Get everyone a home BB. Libraries, community spaces where folks were coming on board together. Communities already organizing themselves.
- **Development of DI coalitions/ DI Justice** - CTNY has a lot of experience. Digital Justice Coalition - how does it put the community leaders in the driver's seat. Create intentional coalition: priority and principales.
- **Demystifying the internet** and the transfer of ownership, knowledge and learning!

National Model: Oakland Undivided

- **Oakland Undivided** - (Thank you, Commissioner Apodaca for the connection) Austin and Oakland similar form of government.
- Strong champions in the Mayor's Office for digital equity.
- **Strong corporate relationship** - partnership with the tech sector, they secured $10 mm from former Twitter CEO Jack Dorsey.
- 53K students K-12, 12% of students from low-income were connected with consistent access to a computer, internet and tech support. 98% connected today!
- Goal: 100% students: 1) computer owned by the family, 2) reliable connection, 3) ongoing tech support. 100% hotspots, 100% laptops, over 10K requests for tech support fulfilled.
- With $7.7M allocation from CARES ACT funding in 2020 by Oakland City Council able to provide public WiFi for 14 zones across Oakland.
- Working towards: **Community-owned Networks** - feasibility of fiber, mesh networks and private LTE solutions.

National Model: Portland

- **Portland - Protecting vulnerable communities from harm.**
- Data and technology to make your lives better, and what can we do **avert harm** from communities that have been harmed.
- Early community involvement, power sharing, equal decision makers at the table.
- City folks are experts and capacity builders to transfer the power to the community to make sure they are equal decision makers.
- Digital inclusion foundational to smart cities solutions.
- For private partners not interested in reverse engineering tech solutions for community benefit! P3 is defined as **private-public-community partnership**! Focus on equity.

National Model: Portland

- Trying to remedy a history of racism. The availability of facial recognition technology concerns in public spaces. **Banned the use of facial recognition by private entities**.
- **From conversations to policy being formalized: a couple of years.** 3 people from the community invited to participate as community consultants. Were paid $100 an hour to attend, learn about the issues, share concerns and be available. 9 months to develop the partnership to build the trust and write the policies. Breaking bureaucracy as a barrier.
- Digital inclusion programs for over a decade. **Digital inclusion foundational to smart cities** - apply DI deep thinking to smart cities solutions to ensure sustainability!
- Challenges: Lack of non-smart phone devices (smartphone subsidized data plans). Requested 40K chromebooks in 5 days through frontline organizations, who are the face of the program! Next focus the need for training on the devices.

Texas Model: Dallas

- Iterate: Speed of innovation - Fail fast, fail forward
- Long Term - investment and build out of a fiber network, investing in digital equity. **Public purpose to develop a fiber network** - the city does not own extensive fiber through the city. Does not want to be an internet service provider, Middle Mile only quickly erect a tower to have the WiFi connect.
- Partnership with the Dallas Independent School District - DISD has their own fiber backbone, City doesn't have their own infrastructure, supports DISD to develop theirs.
- Internet for All - Identified 75K students lacked connectivity.
- DISD sponsored a technology survey of the community - 10K mailed surveys, 1K responded to 50 questions - **80% of respondents said the City or DISD should provide connectivity**.
- $40MM from ARPA funds, $3MM extending WiFi

Texas Model: Houston

- FUSE Executive Fellows - focus on **historically underinvested communities.**
- 142,500 household without a computer, and over 267,000 households **lack broadband internet access**. Fuse Fellow Joshua Williams is developing a digital inclusion strategy.
- More equitable approach to prepare for the future of work - economic growth, targeted 80% (36 out of 45) of Houston's most economically distressed zip codes hit hardest by COVID. **Access to higher-paying jobs**, prospects for building wealth and financial resilience. Fuse Fellow Kenneth Williams.
- Last 5 years, Houston has experienced six federally declared **natural disasters**, now Houston's Housing and Community Development Department (HCDD) shifting to distributing funding, programming and assistance. Business Intelligence strategy. Fuse Fellow Scott Smith.
- 725,000 people experience **food insecurity**, 500,000 living in federally designated districts with supermarkets more htana mile away. Comprehensive food access strategy. Fuse Fellows Jeremy Logan.

Texas Model: San Antonio

- **San Antonio: Breaking down barriers through wide-scale cross-collaboration.**
- **Community Advisory Group** - 20-25 people, 140 community organizations part of the closing the digital divide collaboration.
- Taken on the subject matter expertise and functioning as the **translator for the community** with technology.
- **Understand the user experience,** only a certain number of websites were being used and seen and pulled in. SA's job: to be the technology translators.
- Questions:
    - "What can we do to have structures in place to help guide what we can and cannot do – so we can have conversations around the issues we want to discuss it?
    - What are the consequences of pushing the technology out to our community before they are ready?

Texas Model: San Antonio

- **Data collection bias** - COVID. Dialogue around data and what that meant in their decision-making process. (E.g. why was COVID disproportionately affecting people of color, and their approach to understand it.)
- Asked questions about the data: Are we really getting representative samples of the community? If data is being collected online who is really having access? Have we identified the biases that exist in our approach? How are questions being asked?
- **Built relationships of trust**:
  - Created community advisory group in collaboration with UTSA.
  - Collaborated with agencies that are trusted in the community with strong community representation.
- **Digital equity in the SA smart cities DNA** - digital inclusion, digital rights, digital privacy, digital security.   Cross-city department collaboration.
- **SA Digital Connects** - a new P3 nonprofit aimed at closing the digital divide by improving access to digital tools and high-speed internet service. 5 year mandate.

Key Learning from Models

- **I SPs offering "essential" or "affordable" packages** for qualifying customers - some are tying it to "free and reduced lunch" students and their families. Not providing services for everyone that needs it!
- **Broadband solutions** often tied to utilizing existing built infrastructure (e.g. building and street light fixtures) and anchor institutions (e.g. libraries, schools, etc.).
  Communication is Key - there are still a high number of folks who don't have the language to express their questions or concerns.
- **Access is important, but digital literacy is essential** - they won't know how to use it and take advantage of the access!
- **Sustainability plan needs to take into account**: cost, culture and training!
- **Due to the pandemic's long tail**, people don't want to let technicians and service providers in their home!

Key Learning from Models

- **The most vocal** may not represent real challenges that might exist, some of the most vulnerable groups are not the most vocal.
- **Core issue is: TRUST!**   We can only move at the speed of trust with partners and stakeholders.
- Cities are never interested in **"technology in search of a solution"**. A solution and a challenge that could be addressed by technology. What is important to the city? Come and say you understand our priorities and challenges and recommend how tech solution could be a part of that.
- **Be a partner that understands equity** – Partners have to understand that it is not about how much money you will make. Everyone is addressed and served equitably.
- **Digital resilience** - what are the tools and technologies you need to be really resilient, agile and response to shocks and disruptions in: misinformation campaign, severe weather disruptions, cyber attacks, emergencies?
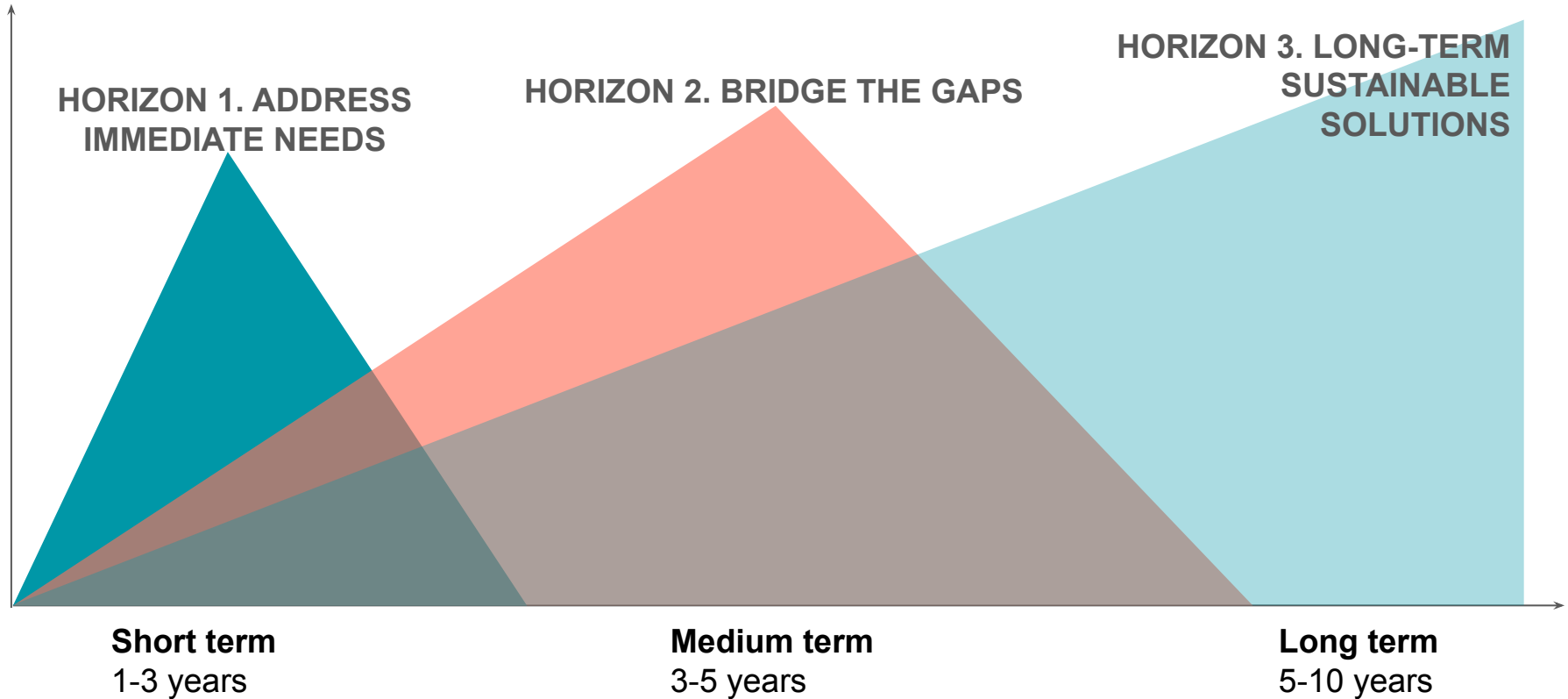
Recommendations from Best Practices

- **Drive for partnerships** in all aspects of the project(s) to share cost and risk
- **Community engagement is KEY**, keep the momentum and ownership focused on the multi-sector, far-reaching partnerships and engagement.
- Create a small, agile, diverse and engaged **advisory board.**
- Consider **community governance** with elections, stipends for participation and leadership.
- Ensure to keep the goals and outcomes of the project tied to the **goals and objectives of the City Council**.
- Reliable access to internet at speeds of **100/100 Mbps** with a committed information rate (CIR) guaranteeing service levels.*
- **Connected devices that meet technical requirements** for foundational applications (e.g., education, health, workforce training)*
- The **ability** to comfortably **access the internet** and the **motivation** to do so (e.g., digital literacy, language resources, trust)*

*Source: SA Digital Connects

Leveraging Innovation in Transportation

- **Rethinking transportation** - When we build roads, also build transit and integrate technologies for broader connectivity solutions (e.g. WiFi to neighborhoods, ongoing speed tests, smart city solutions, etc.) Shreveport garbage trucks outfitted with mini-computers with GPS to detect where homes are connected to the internet, the data generates an interactive map.
- **Innovation in transportation** - Austin CapMetro - 60% of riders in 5 routes! Could internet speed testing be done on an ongoing basis with technologies mounted on mobile buses in these routes and neighborhoods? Smart mobility, Community-based WiFi program, solar trees, etc.
- **Mass transit** - Connecting communities more effectively and affordably to ensure mobility in the region. We live, work and commute throughout the region. The challenges with commute time is refocusing discussion on need for more density in the urban core. A more robust transportation system will allow choices between/among living in the urban core, suburbs and rural areas!
- **Texas is an economic success**! Does not follow other models. Yet very low tax base - how to pay for the services needed? P3 to fill in the gaps!

What's Next!

A 3-horizon view of the challenge and solutions

HORIZON 1. ADDRESS IMMEDIATE NEEDS

HORIZON 2. BRIDGE THE GAPS

HORIZON 3. LONG-TERM SUSTAINABLE SOLUTIONS

Short term
1-3 years

Medium term
3-5 years

Long term
5-10 years

Broadband Challenges

- **Geography** - places where the signal doesn't reach (e.g. topography, hills)
- **Build environment** - some housing authorities reporting the construction materials do not allow for ease of penetration by the BB signal.
- **Aging infrastructure** - the ISPs are not updating the infrastructure.
- **Affordability** - lack of true competition for prices and service is still a barrier.
- **Sufficiency** - Lack of agreement on sufficient, appropriate, needed speed and strength. (25/3 is the FCC adopted speed for broadband).
- **Adoption**- lack of adoption due to lack of understanding of relevance of connectivity to their lives, security concern, affordability, lack of trust.

Some emerging challenges...

- **Limitation of the data** - Lack of hyper local data, some lack of parity between and among data sources (comparing apples and oranges). Continue to convene with counties via CAPCOG and state-wide through the Cities and Counties Broadband Collaborative on cohesion and clarity on data definitions, data sources and analysis.
- **Mapping** - FCC was given funding to improve ISP BB mapping, the newly created Texas State Broadband Office is working on Texas BB map, Connected Nation has ISP data, National League of Cities has a speedtest app, Children's Optimal Health has analyzed the ACS data and has maps, partners like HACA are conducting speed tests of their properties. Connection Test ATX - is still being planned.
- **Structure** - Focus of the project is increasingly regional, where should it live? Incubate in the City of Austin and then create a regional nonprofit with the support from the multi sector stakeholders. San Antonio Digital Connect could be a model.
- **Funding** - Horizon-appropriate funding needs arising. Identify, nurture and build P3 (public-private partnerships), social innovation investment, grants and philanthropy.
- **Technology Solutions** - Need a process for vetting community technology solutions that is sustainable, needs-based, future proofed, transparent, coordinated, and streamlined.

Digital Inclusion Recommendations

- **Affordability -**
  - **Subsidy of Subscription:** Affordable Broadband Benefit (ABB) - $30 for monthly internet connectivity + $50 a one time device.
  - **Shared Services**: Bulk purchasing of subscriptions, shared services for IT and internet.
- **Connectivity -** Currently speed required by FCC 25/3. Recommendation of 100/100 symmetrical. The speed needed for telehealth, homework gap, workforce engagement. Support the federal government's efforts to require ISPs to provide address-level speed test to enable granular measurement.
- **Devices** - Scaling the City of Austin's Computer Refurbishing Program (this past year they gave out 350 devices, demand exceeds supply), DECA partners Austin Free Net, Goodwill for direct distribution, P3 partnerships with the business community for hardware and devices.
- **Training** - Scale the digital trainings being offered by City's partners (e.g. Austin Free Net, Community Technology Network, etc.)
- **IT Support** - Explore and create real-time IT support through such models as call center model (San Antonio and Bexar County), and/or the emerging digital navigators model best practices nationally.

We've done a lot of research and outreach… what's ahead in 2022!

- Just finished Horizon 1, Phase 1 in 2021. Will complete the following for Horizon 1, Phase 2 in 2022:
  - Need to complete the data collection and analysis - Qualitative & Quantitative Surveys! (Done by March)
  - Conduct the feasibility study based on the data analyzed and collected in 2021-2022
  - Create a digital inclusion Roadmap
  - Refresh and update the digital inclusion strategic plan
  - Host small scale and frequent speed tests in targeted areas and draw and analyze the data
  - Need a technology vetting process for RFPs, technical solutions and networks
  - Pursue funding targeting economic development and resilience
  - Keep apprised of funding opportunities at the federal level

Plans for 2022

- **Affordable Connectivity Benefit Summit** (Hosted by the CTTC) - ISPs, community groups, social service providers on removing barriers for affordability, connection and adoption to sign-up those who qualify for the $50 one-time device fee + $30/month towards internet connectivity.
- **Digital Equity Summit:** P3 (Public-Private-Partnerships) - for businesses, vendors, funders, investors, social innovation groups, to learn how to partner with the City of Austin, Travis County, region on digital equity and inclusion for economic recovery, resilience and growth and in the emerging pilot projects.
- **Continue the coordination & learning:** With other City departments on their initiatives, efforts and programs around resiliency, sustainability, and equity; with other cities and counties in Texas; other national models.
- **Council Resolution Direction** to the Equity Office, Public Information, TARA - report back in April 2022: "Assess, identify, explore and develop viable sustainable longer term solutions to address the problem of digital equity." (Ready by March 2022)

Support for the Fellowship

Support for 2021 Digital Inclusion Fellowship

"Khotan Harmon the Leadership Austin 2021 Digital Inclusion Fellow, a fellowship underwritten in part by the St. David's Foundation, provided connectivity to all things broadband in the City and the region. Khotan helped increase my knowledge as a funder around the issues of digital inclusion and broadband, and she assisted St. David's Foundation to develop new relationships in the digital equity space in the Austin area. Khotan helped connect what was going on in small towns and rural areas surrounding the City of Austin with key influencers and strategic decision makers working on the digital equity space, ensuring that our vision and work remains region-wide in digital inclusion and connectivity for all." ~ Abena Asante, Senior Program Manager, St. David's Foundation

"The City of Austin has long been a model for digital inclusion among large cities across the country. It's great to see the City's continued investment in tackling the digital divide as it's an ongoing challenge that will change over time. Khotan's passion for broadband and digital equity has been a great addition to conversations in Austin and Travis County. I hope the City continues to support a Digital Inclusion Fellow moving forward as they will be absolutely critical as once-in-a-lifetime levels of broadband funding begin to arrive." ~ Jennifer Harris, State Program Director, Connected Nation

"It has been my pleasure to work with Khotan Harmon over the last year through her participation in the Digital Empowerment Community of Austin (DECA) and Social Inclusion Task Force. She's an empathetic leader who thoughtfully and strategically brings people and ideas together. It is a huge asset to have someone with Khotan's experience to research, analyze and respond to this timely issue of digital inequality." ~ Kami Griffiths, Executive Director/Co-Founder, Community Tech Network

Support for 2021 Digital Inclusion Fellowship

"*(The Digital Inclusion Fellow) Khotan Harmon has been an invaluable resource to Austin Free-Net. Her warmth, compassion and understanding of the challenges in digital equity and the bigger picture of digital inclusion has made an impact wherever she is involved. We are truly thankful for her contribution.*" ~ Jess Ross, Interim Executive Director, Austin Free-Net

"*Khotan Harmon continues to transform broadband from standalone interventions to a systemic regional approach for Reliable and Affordable Broadband Internet for All. Throughout my work on this project, Khotan managed this once-in-a-lifetime project as trusted collaborator and insightful thought partner. As the Leadership Austin 2021 Digital Inclusion Fellow, Khotan Harmon has taken the Digital Inclusion program to new levels for a future proof Austin/Travis County Broadband Strategy that is sustainable and resilient.*" ~ John Speirs, Program Manager, Office of Broadband, Harris County (formerly of the Digital Inclusion team at TARA, City of Austin)

"*Khotan Harmon's role as a Digital Inclusion Fellow was critical to supporting HACA and Austin Pathways' goals to synergize and serve very low-income Austin residents during covid-19 response and recovery. Through her practical and sensitive inquiry, Khotan helped to develop a shared understanding of digital equity requirements among diverse stakeholders, identify community, shared and privately held digital equity assets, exploring public and public-private partnership options. By serving as a focal point for community efforts, technology and business roadmapping, as one stakeholder we are able to align and move more quickly and with greater understanding about the unique role we and other stakeholders can play in the digital equity ecosystem.*" ~ Catherine Crago, Head of Strategic Initiatives, Housing Authority of the City of Austin & Austin Pathways.

Support for 2021 Digital Inclusion Fellowship

"The delivery of enhanced digital services to community members has never been more important to the mission local governments serve. Ensuring those services are designed, marketed, and consumed equitably is core to the values we share and goals we should strive to achieve. Our work with Khotan, and collaborations like it, show how to achieve these goals and bring us closer to a truly equitable outcome for all." ~ Chris Stewart, Chief Information Officer, City of Austin

"I am sincerely grateful to St. David's Foundation and to Khotan Harmon for the 2021 Digital Inclusion Fellowship Program.   The addition of her skills and time to align multiple efforts will have an everlasting impact as we strive for ensuring digital equity and equitable outcomes for our most vulnerable and low-income community members. Khotan's empathy, professional consulting, strategic and community connections allowed for a more widespread , cross-sector community conversation about digital equity than ever before and shaped the approach on how to address a very complex problem.   From day 1, Khotan has been such a great member of our team and a delight to work with side by side over the past year! I am thankful for her contributions!"   ~ Rondella Hawkins, Telecommunications & Regulatory Affairs Officer, Financial Services Department, City of Austin

"It has been a pleasure to work with Khotan Harmon, Leadership Austin 2021 Digital Inclusion Fellow. Speaking as Chair, I am proud to say that the work of the Community Technology and Telecommunications Commission (CTTC) for the City of Austin has benefited greatly from her sophistication, warmth, and, persistent collaboration as Digital Inclusion Fellow.   As sworn members of this Commission, our advisory role to the City Council and responsibility for the city-funded Grant for Technology Opportunities Program (GTOPs) is coupled with a responsibility to represent the community at large in all we do, particularly underrepresented members. As CTTC represents the community's voice, full of knowledge and curiosity, I remain thankful for the community's sake that Khotan understands the importance of our persistent dialogue and I look forward to it deepening. Reflected in the legacy of the City of Austin's Digital Inclusion Program and work of the CTTC, these kinds of dedicated individuals and resources are essential for truly strategic and lasting problem-solving for the Digital Divide." ~ Nehemiah Pitts III, Commission Chair, Community Technology & Telecommunications Commission, City of Austin

Thank You!

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