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ADDRESSING THE DIGITAL DIVIDE IN AUSTIN: RESIDENTIAL TECHNOLOGY STUDY

Paulette Blanc, MPH | Urenna Onyewuchi, PhD | Reyda Taylor, PhD

ABOUT MEASURE

MEASURE is a research and public education organization led by Black women and dedicated to using data and technology to pursue community-defined goals. Since its founding in 2015, MEASURE has provided over 3014 hours of free antiracist evaluation support to our community to increase their access to and use of data. MEASURE believes that, when used strategically, data provides a common language upon which community members can meet and increase their knowledge about the causes and work together to create equitable change and increase awareness.

ABOUT CITY OF AUSTIN THE OFFICE OF TELECOMMUNICATIONS & REGULATORY AFFAIRS (TARA)

The Office of Telecommunications & Regulatory Affairs (TARA) provides consumer protection through regulatory oversight, access to information and communications technology resources and infrastructure, and generates revenue to support City services (1,2). One of TARA's activities is to promote digital inclusion through access to information and communications technology and trainings.

CITY OF AUSTIN'S RESIDENTIAL TECHNOLOGY STUDY

The Fiscal Year 2021 (FY21) Residential Technology Study is building off of previous efforts that began in 1998 to understand residents' sentiments around the internet (3). The FY21 study's goal is to gain a greater understanding of digital inclusion in Austin, particularly during the COVID-19 pandemic and its impacts on digital access. MEASURE was awarded the contract to execute the portion of the FY21 Residential Technology Study that gathered lived-experiences of Austin residents, particularly those in communities that are least likely to have digital access. The goal of the analysis and results shared in this report is to create or modify policy that guides and shapes appropriate provision of services and programming that will close the identified digital gap within a reasonable amount of time.

Sources

1. City of Austin. (n.d.).*Telecommunications.* Retrieved January 31, 2022, from https://www.austintexas.gov/telecommunications
2. City of Austin. (n.d.). *About TARA*. AustinTexas.gov. Retrieved January 31, 2022, from https://www.austintexas.gov/department/telecommunications/about
3. Digital Empowerment Community of Austin. (n.d.). FY21 Residential Technology Study. FY21 Residential Technology Study - Digital Empowerment Community of Austin. Retrieved January 31, 2022, from https://cityofaustin.gitbook.io/decatx/solving-for-austins-digital-access-challenges-in-response-to-covid-19-1/fy21-residential-technology-study

BACKGROUND

Digital access is the ability, both technical (i.e. skills) and financial, to make full use of the technology available and access the internet (4). The lack of digital access goes beyond issues of internet access and individual abilities and includes a problem of inclusivity and systemic inequities in institutions (5,6). The City of Austin started a Digital Inclusion Strategy in 2014 to understand the problem of the digital inclusion gap in the city. Surveys have been conducted in 2014 and 2018 to identify the feelings of residents on the topic (7). The 2018 survey indicates that 95% of respondents have a home broadband Internet connection, which is an increase 92% reported in 2014 (8). Among the 5% of respondents that indicated they do not have a home Internet connection, 72% use the Internet at another location, like public libraries, or by another means, such as using a mobile connection.

Digital and internet access are tied to telecommunications infrastructure including cell phone towers, copper cabling, fiber optic cabling, etc. The availability and quality of internet access are dependent on the locations of such infrastructure. The farther away a “receiver” is from a “transmitter,” the worse access and quality will be. Infrastructure requires financial investment. Cabling for internet provision in any area has a $/km value. Rights-of-way and permits are required in the same way they are required for erecting transmission structures and distribution poles for the transmission and distribution of power respectively. Pockets of the city of Austin do not have the infrastructure necessary to provide internet access and where they do, the quality of service can be poor. Historically, there has been a divide in the City of Austin that has been referred to as an "I-35 Divide", where city resources and infrastructural investments have been inequitably focused on areas west of I-35 (9). Recent natural disasters, the COVID-19 pandemic that caused shut-ins in March 2020, and the 2021 Winter Storm Uri that caused the Texan power grid, which is disconnected from the national grid, to fail, have further exposed the compounding effects of systemic inequities.

An overview of key historic events that are related to digital inequity have been documented in the historical timeline graphic, *History of Digital Inequity in Austin, Texas* (10).

Sources

4. The San Diego Foundation. (2021, December 13). *What is the digital divide?* The San Diego Foundation. Retrieved January 31, 2022, from https://www.sdfoundation.org/news-events/sdf-news/what-is-the-digital-divide/
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6. Chakravorti, B. (2021, July 20). *How to close the digital divide in the U.S.* Harvard Business Review. Retrieved January 26, 2022, from https://hbr.org/2021/07/how-to-close-the-digital-divide-in-the-u-s
7. City of Austin Digital Inclusion Strategy 2014. (2014) Retrieved from https://www.austintexas.gov/digital-inclusion-strategy-2014/digital-inclusion-strategy-2014
8.Digital Inclusion in Austin Final Report. (2018) Retrieved from https://www.austintexas.gov/sites/default/files/files/Telecommunications/DigitalInclusion/Digital_Inclusion_Final_Report_8.13.2019.pdf
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10. Onyewuchi, U, Blanc, P. Taylor, R. (n.d.). *History of Digital Inequity in Austin, Texas.* Retrieved from https://www.canva.com/design/DAEqQ1tPRvg/_uQBCggC5w9GCH6nWvopHA/view?utm_content=DAEqQ1tPRvg&utm_campaign=designshare&utm_medium=link&utm_source=sharebutton

METHODOLOGY

MEASURE's Equity Focused Group tool approach allows those who are historically and systematically impacted by disparate social outcomes to make up the majority of the focus group and leads to an elevation of rich data, showcasing the lived experience of focus group participants. As part of the City of Austin's Residential Technology Study, a series of focus groups were held to understand community members' lived experiences around accessing the internet and technology, what programs or services, if any, helped them, and what they needed in order to improve their digital access and skills. The target population was people who were least likely to have access to the internet or technological devices. These groups included, but were not limited to, persons with low income, older adults, immigrant populations, and Black, Brown, Asian, Native-American, and multi-racial and multi-ethnic communities.

The participants were recruited by local community partners and individual outreach efforts using social media, radio public service announcements, and distributions of fliers at local libraries and public places. Recruitment occurred from September 2021 through January 2022. There were nine focus groups sessions held virtually, using a web-based video conferencing application called Zoom, from September 2021 through January 2022, during weekday evenings and Saturday mornings. Participants had the option to join by phone if joining via an internet-enabled device was not possible. Due to the COVID-19 pandemic, there were no in-person focus groups. Each focus group session was 90 minutes long. Participants were compensated $100 for completing the focus group.

Of the nine focus groups, the first focus group was dedicated to developing the research protocol with the community (conducted in English). Five other sessions were in English, two in Spanish, and one in Dari. There were a total of 52 participants. The participants' demographic characteristics are as follows: In terms of age, 31% were 18-25 years old, 23% were 26-35 years old, 17% were 36-45 years old, 15% were 46-55 years old, 4% were 56-65 years old, 8% were 66 years old or older. The ethnic makeup was 29% Black, Afro-Caribbean, or African American, 10% were East Asian or Asian American, 35% were Latino or Hispanic American, 2% were Middle Eastern or Arab American, 6% were of multiple ethnicities or other ethnic background, 6% were South Asian or Indian American, 10% were White or Euro-American, and 4% were unknown or preferred not to say. The gender identification was 60% female, 37% male, and 2% non-binary, and 2% unknown. In terms of education, 8% had less than a high school diploma, 17% had a high school diploma or equivalent, 8% had vocational or trade school, 21% had some college but no degree, 35% had an undergraduate degree, 10% had a graduate degree, and 2% were of unknown educational level. Participants' marital status were 35% married, 27% never married, 17% divorced, 2% separated, 2% widowed, and 25% unknown. In terms of income, 33% of participants earned less than $20K, 17% earned between $20K-$39K, 10% earned between $40K-$59K, 12% earned between $60K-$79K, 2% earned between $80K- $99K, 2% earned more than $100K, and 25% of participant income levels were unknown.

THEMATIC ANALYSIS

Note summaries, transcriptions, and some video recordings were used to identify top themes from the focus groups. Focus groups were iterative, in that some questions were adjusted or added as new topics emerged during the data collection period. For instance, after a few focus groups, we added questions that allowed us to dig into the impact of the 2021 winter storm (Uri). With a changing protocol, a quantitatively focused frequency analysis cannot be used to identify top themes, as the frequency of themes could be the result of primed questions. Instead of using frequency, top themes were identified based on threads of shared topics between at least three sessions. The themes on the following pages were identified in the data and will be explored in this analysis, along with recommendations for further exploration.

Focus Group Questions:

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

INFRASTRUCTURE AND SERVICE INEQUITY

A lack of options for better internet service came up over and over in the sessions. Gentrification and rising cost of living are deeply influencing participants' ability to pay for or access technology and internet. Many go to local public spaces (e.g. coffee shops, libraries, grocery stores) to access internet. One key topic related to infrastructure that emerged during multiple sessions, was the 2021 Winter Storm. Many participants pointed to the storm as a key example of how digital inequities played out. Not only did participants not have power, but they did not have access to the internet to be warned about the coming weather to prepare, nor to connect to loved ones or get resources and information during the storm. Another important infrastructure-related topic that came up was around cellular vs Wi-Fi. Many participants who had Wi-Fi at home described struggling to access the internet when they left the home, making access overall harder. The cost of having cellular data was mentioned as high, but it was the inability to find access that was most commonly referenced as a barrier.

PRIVILEGE AND EXISTING ACCESS

There was a wide range of relative privilege represented in the focus groups. It was apparent, even during the sessions, that not all participants had quality access to internet. Many dropped in and out of the call or were unclear due to technical difficulties. Some participants described themselves as having considerable digital privilege, while others were more limited. One irony that was regularly surfaced by participants is that so much is only available online now, including the knowledge about how to develop your digital knowledge. This makes it especially hard for people to learn or get access if they do not already have access. This compounding inequity of basic access showed up over and over again, especially when the pandemic hit and cut off public access to the internet (i.e. libraries closing) and to resources that would help them eventually get access or build their digital literacy skills. For some, having existing privilege enabled them to navigate the effects of the pandemic with more ease, while others were challenged to find access. For example, when the pandemic hit, English as a Second Language (ESL) classes were stopped, which meant that non-English speaking women, who already faced systematic underinvestment in the countries they migrated from, were unable to continue their education. A few participants described losing access to the libraries, which is where they got internet access. One participant eventually found that they could go to FedEx to have their emails printed out at 8 to 20 cents per page. The ever-growing cost of living was also pointed to as a threat to digital equity. Not only were participants having to weigh whether they could continue to pay for internet with the increased costs of their other basic needs, but as community members are pushed further out due to housing costs, they must spend more time and money on transportation to reach publicly available internet sources.

SKILLS, LEARNING, AND DIGITAL LITERACY

Another aspect of the privilege of having existing access is the direct influence it has on being able to continue to build digital literacy skills, especially as technology changes so rapidly. As one participant said about learning any given aspect related to the internet: "Having libraries are great, but if I have to read every textbook on this from a library to get this, I won't be there". He further pointed to the cumbersome nature of how advanced some digital content can be and how much learning it requires with the analogy that, if he has to have "115 tabs open just to actively learn something, I can't imagine what you would need to do if you don't have access." Participants described a wide variety of sources for learning about technology, from family members, younger generations, to commercials, and doing their own searches online. As previously mentioned, many participants used in-person resources for learning, which were discontinued during the pandemic. For instance, the library, Best Buy, and Apple in-person trainings were no longer held or were moved to virtual platforms, cutting off valuable resources for the participants. Many participants relied on family or children to help them learn, and some younger participants described having to play that support role for their families and friends. For many, friends and other peer groups seemed vital to getting them access and knowledge. A particularly important illustration of that emerged during one of the focus groups, when a participant offered himself up directly to other participants if anyone needed support. He empathetically described how he knew what it was like and was happy to exchange information to help folks with any questions they "think are too dumb to ask." When the pandemic hit, not only did many folks lose access to their social network, but they also lost access to the individuals that helped them navigate and use technology so that they could in theory make those connections virtually. One participant described a lot of anger.

NAVIGATION, TRUST, AND ADOPTION

In numerous sessions, participants described as a barrier for themselves or others a fear and mistrust about technology and the internet, and this having an influence on digital inequities. Some people are scared or unsure how to safely navigate the internet, and some people are navigating and experiencing real risks and threats, so they become scared. Some participants asked how technology systems are being held accountable for data breaches and cyber attacks. This can be a challenge not only for the individuals in adopting technology, but for organizations trying to provide services to people to support them. Often, resources or online pages are not in languages that are accessible either, further risking trust and understanding. Not only different languages, but the jargon or specialized technical language used on some sites can be overwhelming and intimidating. As one person said, "If I have a question I have to read a dissertation." One person gave a local unemployment agency's website as an example of an inaccessible site for themselves, much less for those who are not as familiar with technology or speak a different language. Participants also pointed to how the loss of in-person training influenced trust-building around digital literacy.

PERSPECTIVE FROM DARI AND SPANISH FOCUS GROUPS

Amongst the Spanish and Dari focus group sessions, a few themes emerged that were unique from those of other sessions.

- **Finding balance:** Despite their appreciation for the increased likelihood of access to the internet compared to their home countries, there was hesitancy around over-exposure of their children or young relatives to internet content that could overwhelm and distract them from important life matters. Participants emphasized that they ensure the younger generation use the internet in a balanced way. There was an undertone of upholding their respective cultures while absorbing the new American one.

- **Gender gaps:** Participants in the Dari session highlighted the opportunities to address the gender gap that existed in their home countries where girls and women were denied opportunities for digital access. One female participant from Afghanistan felt empowered to improve her digital literacy being in the United States. The converse was the case for a male Afghan who was advocating for the young girls whose education in assimilating the new culture was halted by the COVID-19 pandemic, where these girls and women did not have the access to the internet and to learning as they used to, with library closures and the like. There was an overall sentiment of "no woman left behind."

- **Language barriers:** The importance of media content in other languages, like Dari and Spanish, was shared. A lot of content on US websites are in English and new immigrants are still trying to learn English. Not having new knowledge in a language they can understand deters them from growing in digital literacy.

Sources
1. Numbered footnotes..
2.

LIVED-EXPERIENCE DATA & STORYTELLING

(Referring to the speed at which technology changes)
"Having libraries are great, but if I have to read every text book on this from a library to get this, I won't be there."

- Participant

"I think we have a digital cast system... we deem some people worthy of some resources [and some] people unworthy of other resources ... it's not like we lack the money or technology for everyone to have access."

- Participant

"[If I need] 115 tabs open just to actively learn something, I can't imagine what you would need to do if you don't have access."

- Participant

OPPORTUNITIES AND REFLECTIONS:

As the research team listened to participants and analyzed the data, the following opportunities and reflection questions emerged:

- Who are the "frontline" roles that could influence digital adoption so that their lack of access does not have a cascading negative effect on a larger network (e.g. teachers, social workers)? Are there strategies and models from vaccine staged distribution that could be adapted for digital equity solutions?
- How can institutions with trust (e.g. churches) become key partners and resources for building access points and knowledge hubs?
- How can institutions that are adapting to digital service delivery and are vital for everyday living (e.g. banks, medical, education) partner in the trust-building work needed for technology adoption?
- How can the City of Austin work with service providers to improve the consumer selection process to not only be more transparent but also to be more user-friendly, meeting people where they are at in their digital literacy?
- What opportunities are there to identify and invest in community-based groups and individual leaders who can serve as internal advocates for digital equity in their peer groups? For instance, groups of elders who are passionate about spreading the word and dispelling myths about the internet.
- How can more non-digital marketing materials be used to promote access to technologies and resources (e.g. paper mailouts, radio programming)?
- Can the collective memory and experience of the winter storm be leveraged for advocacy to individuals and institutions for change?
- How can additional resources be added to make both Wi-Fi and cell coverage more accessible?

CONCLUSION

In summary, the insights from lived-experiences of community members, in addition to previous studies, provide a solid foundation for generating and improving solutions to eliminate digital inequity. Solutions developed should incorporate a targeted approach for disrupting one or more of the systemic issues that are the root causes of digital inequity (i.e. education, housing, etc.). A few participants shared how learning computer skills as part of primary education gave them a good foundation for digital proficiency and flourishing in the digital age. Digital literacy programs should be designed to support various demographic needs, age-specific needs, cultural differences, languages, and learning styles. Appropriate programming in multiple languages, whether through the public library, the City of Austin's YouTube Channel, local radio stations, or a combination of these could be dedicated to improving digital literacy, inclusivity of people of different cultures in the Austin area, and sharing resources that will benefit all Austin residents. There is also a need to ensure that solutions develop that are human-centered. For example, when the school system deployed school buses as Wi-Fi hotspots, many children had to sit outside in various weather conditions for hours to access their educational systems online and complete assignments. A human-centered approach can take into account the full user experience of the solutions developed.

Furthermore, throughout the recruitment process, the research team found that individual community liaisons and word-of-mouth were the best ways to reach people. At the time of the study, a one-stop-shop to find technological help wasn't easy to locate. There were websites for various organizations, but unless the person was aware of the organizations, they would never know to go to their website. As part of this study, a resource guide was created to connect participants with services and organizations that could help them with their technological needs (see Tech Connect flier). This tool can be printed and shared via text messaging to reach people outside of social media and other internet-based platforms.

Tech Connect

A quick starter guide to getting help for technology needs in Austin.

Internet Access

AUSTIN FREE-NET
512-974-1463
workforce@austinfree.net
https://www.austinfree.net/

AUSTIN PUBLIC LIBRARY
(20 locations)
512-974-7400

EMERGENCY BROADBAND BENEFIT
(833) 511-0311
EBBHelp@USAC.org

SPECTRUM INTERNET ASSIST
(844) 525-1574
https://www.spectrum.net/support/forms/spectrum_internet_assist

Tech Jobs & Training

AUSTIN FREE-NET
https://www.austinfree.net/

AUSTIN AREA URBAN LEAGUE TECH AND CAREER ACADEMY (AAULTCA)
8011A Cameron Rd Building A-100
Austin, TX 78754
(512)-478-7176
https://aaul.org/tca

AUSTIN URBAN TECHNOLOGY MOVEMENT (AUTM)
https://www.autmhq.org

GOODWILL CENTRAL TEXAS COMMUNITY CENTER
1015 Norwood Park Blvd Austin TX 78753 or (512) 637-7100

Programs for Children

AUSTIN PUBLIC LIBRARY
512-974-7400
https://library.austintexas.gov/database-subjects/all-databases

Tech Devices

EVERYONEON
https://www.everyoneon.org/

Other Resources

UNITED WAY
Dial 211
The 2-1-1 phone line is free, confidential, multilingual, and available 24/7

Accessibility

TALKING BOOK PROGRAM (TBP)
Provides free library services to qualifying Texans with visual, physical, or reading disabilities.
512-463-5458

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Conexión Tecnológica

Una breve guía para obtener ayuda para las necesidades tecnológicas en Austin.

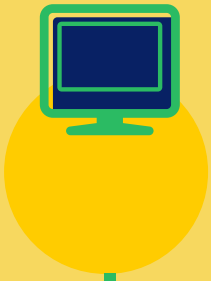
Acceso a Internet

AUSTIN FREE-NET
512-974-1463
workforce@austinfree.net
https://www.austinfree.net/

BIBLIOTECA PÚBLICA DE AUSTIN
(20 ubicaciones)
512-974-7400

EMERGENCY BROADBAND BENEFIT
(833) 511-0311
EBBHelp@USAC.org

SPECTRUM INTERNET ASSIST
(844) 525-1574
https://www.spectrum.net/support/forms/spectrum_internet_assist



Empleos y Formación

AUSTIN FREE-NET
https://www.austinfree.net/

AUSTIN AREA URBAN LEAGUE TECH AND CAREER ACADEMY (AAULTCA)
8011A Cameron Rd Building A-100
Austin, TX 78754
(512)-478-7176
https://aaul.org/tca

AUSTIN URBAN TECHNOLOGY MOVEMENT (AUTM)
https://www.autmhq.org

GOODWILL CENTRAL TEXAS COMMUNITY CENTER
1015 Norwood Park Blvd Austin TX 78753 or (512) 637-7100

Programas para Niños

BIBLIOTECA PÚBLICA DE AUSTIN
512-974-7400
https://library.austintexas.gov/database-subjects/all-databases

Dispositivos tecnológicos

EVERYONEON
https://www.everyoneon.org/

Otros Recursos

UNITED WAY
La línea telefónica 2-1-1 es gratuita, confidencial, multilingüe y está disponible las 24 horas del día, los 7 días de la semana.

Accesibilidad

TALKING BOOK PROGRAM (TBP)
Servicios de biblioteca gratuitos para tejanos que califiquen con discapacidades visuales, físicas o de lectura. 512-463-5458

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