Broadband Makes US Better:

Lessons from the Lone Star State

By Corian Zacher and Brian Donoghue

Next Century Cities

FIND MORE RESOURCES AT BROADBANDHUB.ORG

UPDATED AUGUST 2023

Executive Summary

From being a social determinant of health to impacting generational economic mobility, broadband connectivity now touches every aspect of American society. Local leaders have never been more focused on expanding broadband access and adoption. Broadband initiatives nationwide, particularly those in the second-largest state, illustrate a widespread need for a holistic approach to broadband policy making.

In Texas, where approximately seven million residents are on the wrong side of the digital divide, many communities have leveraged creative financing methods for assessing and installing broadband in their communities. If effectively deployed, incoming federal and state broadband funding will create opportunities to bridge longstanding access gaps in low-income and rural communities.

This paper reviews the recent history of local efforts to accelerate broadband deployment and improve adoption statewide. It also explores the solid start for state and local coordination in Texas through the newly-formed Broadband Development Office. Highlighting the vital role of local governments, the analysis explains why community-level broadband policies are imperative for ensuring that county, state, and federal programs provide maximum impact to residents facing connectivity barriers. Finally, with upcoming federal broadband funding opportunities filtering through states, this research documents why coordination with local governments has never been more important.

VIEW AN INTERACTIVE VERSION OF THIS REPORT AT:
https://nextcenturycities.org/lessonsfromthelonestarstate/

Table of Contents

Introduction

Long before the onset of the COVID-19 pandemic, Internet access became central to everything we do, particularly for having a meaningful voice in American society. The role that technology access and adoption play in maintaining livelihood throughout national emergencies shifted. People working in healthcare, law, and education, to name a few, gained a new appreciation for broadband's central role in advancing a just and equitable society.

Efforts across Texas, where seven million residents lack a broadband subscription, illustrate the widespread need for a more comprehensive approach to broadband policy.[1] For too long, human and technical systems have excluded large swaths of the people who use them.[2] Because technology reflects the people who build it[3] and STEM education systematically excludes women and racial minorities,[4] the majority of users' needs are not reflected in the design process. Broadband policies must intentionally counter decades of exclusion.

"Because technology reflects the people who build it and STEM education systematically excludes women and racial minorities, the majority of users' needs are not reflected in the design process. Broadband policies must intentionally counter decades of exclusion."

With a monumental amount of funding invested in broadband access and adoption, we have the unique opportunity to build new systems with users' needs and experiences at the core. Local governments are situated in close physical and relational proximity to the people who continually face barriers to adopting affordable, high-quality broadband service. Accordingly, achieving state and federal broadband program objectives rely heavily on local implementation.

Federal and state policymakers can design programs that promote on-the-ground efforts by empowering local leaders with the resources necessary to meet residents' needs. Fundamentally, investing in community-based programs and expertise helps build a legacy of inclusion into the broadband networks of tomorrow.

1 See Ryan Chandler, *Bridging the 'digital divide:' Texas passes billions for broadband expansion as millions live unconnected* (April 26, 2023), https://www.kxan.com/news/texas/bridging-the-digital-divide-texas-passes-billions-for-broadband-expansion-as-millions-live-unconnected/.

2 See e.g. Neil Selwyn, Stephen Gorard, and Sara Williams, *Digital Divide or Digital Opportunity? The Role of Technology in Overcoming Social Exclusion in U.S. Education* (May 1, 2001), https://www.researchgate.net/publication/258136189_Digital_Divide_or_Digital_Opportunity_The_Role_of_Technology_in_Overcoming_Social_Exclusion_in_US_Education.

3 See Felix Chang, *To Build More-Inclusive Technology, Change Your Design Process* (Oct. 19, 2020), https://hbr.org/2020/10/to-build-more-inclusive-technology-change-your-design-process.

4 See Emily Cyr Hilary Bergsieker, Tara Dennehy, and Toni Schmader, *Mapping social exclusion in STEM to men's implicit bias and women's career costs* (Aug. 16, 2021), https://www.pnas.org/doi/10.1073/pnas.2026308118.

Improving broadband access and adoption is a cross-sector effort.

From being a social determinant of health to impacting generational economic mobility, broadband connectivity touches every aspect of American society.[5] A 2022 study by Raul Katz, director of business strategy research at Columbia University, found a positive correlation between broadband speeds and economic growth. According to Katz's research, "if broadband adoption and speed had remained unchanged since 2010, the 2020 GDP would have been 6.27 percent lower."[6]

In addition to directly impacting local economies, gaps in broadband connectivity cut already economically disadvantaged community members off from services that could otherwise improve their quality of life. Solving a problem as massive as the digital divide will require long-term investments in community-wide broadband strategies.

Healthcare

Though hospitals began using telehealth in the 1950s and 60s, the pandemic thrust virtual healthcare into the mainstream.[7] FAIR Health found that between March 2019 and March 2020, the percentage of national telehealth claim lines, when compared to all medical services, increased by 4,347 percent, then nearly doubled to 8,336 percent between April 2019 and April 2020.[8]

5 *See generally* N. C. Benda, T. C. Veinot, C. J. Sieck, J. S. Ancker, *Broadband internet access is a social determinant of health*, American Journal of Public Health 110(8), 1123–1125 (2020), https://doi.org/10.2105/AJPH.2020.305784; Francella Ochillo, *The Economic Consequences and Generational Impact of the Digital Divide* (2022), https://www.belfercenter.org/sites/default/files/files/publication/TAPP-Francella_Impact%20of%20the%20Digital%20Divide_Final_220516.pdf?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters&mc_cid=f370a9d342&mc_eid=81c1b38574.

6 Teralyn Whipple, *Broadband Speeds Have Significant Impact on Economy, Research Director Says* (June 28, 2022), https://broadbandbreakfast.com/2022/06/broadband-speeds-have-significant-impact-on-economy-research-director-says/?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters.

7 *See* Thomas S. Nesbitt, *The Evolution of Telehealth: Where Have We Been and Where Are We Going?* (2012), https://www.ncbi.nlm.nih.gov/books/NBK207141/#:~:text=Probably%20one%20of%20the%20earliest,State%20Hospital%20for%20psychiatric%20consultations.

8 FAIR Health, *The Evolution of Telehealth during the COVID-19 Pandemic* (June 14, 2022), https://s3.amazonaws.com/media2.fairhealth.org/brief/asset/The%20Evolution%20of%20Telehealth%20during%20the%20COVID-19%20Pandemic-A%20FAIR%20Health%20Brief.pdf.

At least two studies found that increased broadband access correlates to decreased COVID-19 death rates.[9] A study from Tufts University's Digital Planet initiative found that a 1% increase in broadband access led to a 0.24% decline in COVID-19 deaths.[10] Researchers at the University of Chicago revealed that "populations with limited Internet access remain understudied and are often excluded in pandemic research."[11] This observation transcends the healthcare field and indicates research gaps that might otherwise help communities make a case for their own broadband projects.

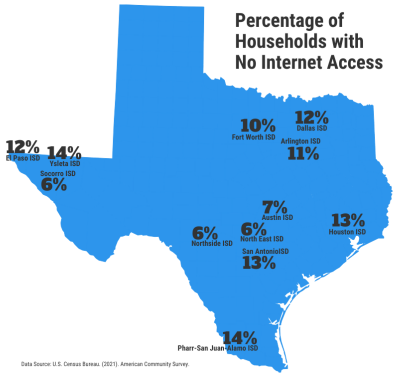

Figure 1: Percentage of Households with No Internet Access. Data collected by US Census Bureau (2021) American Community Survey. Graphic created by the Intercultural Development Research Association.

Education

The Intercultural Development Research Association ("IDRA") found that, in rural and urban Texas alike, student disengagement during the pandemic was a direct result of limited broadband access.[12] IDRA recommends investing in sustainable infrastructure; providing equitable device access; offering digital literacy training to educators, families, and students; and investing in community engagement programs.[13]

Another great example of community-driven infrastructure comes from the Fort Worth Independent School District ("FWISD") in **Tarrant County** which is delivering on its commitment to prepare all students for success in college, career, and community leadership by improving connectivity for students.[14] FWISD used federal and municipal bond funding for a partnership to build a sustainable Citizens Broadband Radio Service (CBRS) wireless network.[15] The equipment is currently on rooftops but will ultimately move to school-owned

9 Diana Goovaerts, *Second study links broadband access to lower Covid death rates* (June 28, 2022), https://www.fiercetelecom.com/broadband/second-study-links-broadband-access-lower-covid-death-rates.

10 Abidemi Adisa, Bhaskar Chakravorti, Ravi Shankar Chaturvedi, and Christina Filipovic, *The Impact of Internet Access on COVID-19 Mortality in the United States* (June 22, 2022), https://sites.tufts.edu/digitalplanet/the-impact-of-internet-access-on-covid-19-deaths-in-the-us/.

11 Qinyun Lin, Susan Paykin, Dylan Halpern, et al, *Assessment of Structural Barriers and Racial Group Disparities of COVID-19 Mortality With Spatial Analysis,* at 13 (March 4, 2022), https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2789619.

12 See Christina Quintanilla-Muñoz, *Plugged in, Tuned Out – Student Engagement Patterns in Texas Public Schools During COVID-19 Show Need for Statewide Broadband Access*, at 4-7 (May 19, 2021), https://www.idra.org/wp-content/uploads/2021/05/Plugged-in-Tuned-Out-IDRA-Issue-Brief-May-2021.pdf.

13 Thomas Marshall & Christina Muñoz, *Digital Destination – Texas Needs Broadband Connectivity for All Students & Families* (April 20, 2021), https://www.idra.org/wp-content/uploads/2021/04/Digital-Destination-IDRA-Issue-Brief-April-2021p.pdf.

14 Fort Worth Independent School District, *About Fort Worth ISD*, https://www.fwisd.org/domain/184 (last visited Aug. 30, 2023).

15 Monica DeGrasse, *Fort Worth ISD Builds Sustainable CBRS Network* (Jan. 10, 2022), https://www.fiercewireless.com/private-wireless/fort-worth-isd-builds-sustainable-cbrs-network?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters.

poles to reduce leasing costs and provide the district the opportunity to lease out excess pole capacity.[16]

Harris County and its county seat, **Houston, Texas**, faced similar struggles to their fellow Texas cities. As the third most populous county in the nation, Harris County sees firsthand the challenges of connectivity in urban and rural communities alike. In support of the 32% of households (around 60,000) without Internet access in his precinct, Commissioner Adrian Garcia authored a resolution to create the Harris County Office of Broadband in November 2020. Since then, it has invested over $50 million to deploy upwards of 130 public broadband locations and access to 300,000 mobile devices for students and their families.[17]

Economic Development

Given broadband's direct impact on local economies, economic development organizations are increasingly taking a role in developing physical and human infrastructure. For example, the **Palestine, Texas**, Economic Development Corporation partnered to deploy fiber after recognizing that inadequate broadband services directly hindered economic growth.[18] The East Texas Council of Governments supports local leaders through regional broadband planning, hosting regional convenings, collecting data, and helping communities apply for funding.[19] Harrison County Judge Chad Sims explained that the County is now partnering with East Texas Council of Governments and an Internet Service Provider to apply for grants to build out fiber to rural areas.[20]

Entrepreneurship

Research shows that supporting entrepreneurship by people of color is an integral and under-utilized opportunity for local economic growth.[21] While digital tools offer tremendous opportunity for minority-owned businesses, filling gaps in digital skills, devices, and Internet access remains a crucial role of local governments.[22]

16 *Id.*

17 *See generally* Harris County Office of Broadband, https://broadband.harriscountytx.gov/ (last visited Aug. 30, 2023).

18 *See* Amy French, *Phase one for Palestine broadband service nears completion* (June 10, 2021), https://www.palestineherald.com/phase-one-for-palestine-broadband-service-nears-completion/article_5b82299a-c96b-11eb-89fa-9fa466083b4d.html.

19 *See* East Texas Council of Governments, Broadband Study and Action Plan, https://www.etcog.org/broadband-planning (last visited Aug. 30, 2023).

20 Robin Richardson, *Harrison County backs efforts to seek broadband infrastructure grant* (Aug. 6, 2022), https://www.news-journal.com/news/local/harrison-county-backs-efforts-to-seek-broadband-infrastructure-grant/article_b2c53cc6-a6a4-55fa-8483-56d17c02b509.html.

21 *See* Karen Mossberger, Meredith McCullough, Angel Molina & Yushim Kim, *Digital Entrepreneurship in Communities of Color*, at 6 (Oct. 2021), https://techdatasociety.asu.edu/sites/default/files/uploads/202110/dig-entr-brief.pdf.

22 *See generally* ***id.***

Connectivity enables business owners to broaden their marketplace, access financial capital, and lower overhead costs.[23] With a broadband connection, technology skills, and devices, entrepreneurs can launch businesses from their homes. Digital entrepreneurship improves high-quality employment opportunities for residents in rural communities like **Lufkin, Texas**, where the Legacy Institute for Financial Education ("LIFE") is providing clients with an average household income below $15,000 with the financial resources needed to build economic stability and resilience.[24] An assessment of broadband availability and new business activity across the U.S. showed that reliable broadband access was associated with an increase in new business activity and net creation of new businesses.[25]

Access to the Legal System

When researchers at the Marshall Project asked inmates *what could have decreased the likelihood of them going to prison in the first place?* The answers align directly with resources that broadband connections provide, such as employment, healthcare, and education.[26] Remote court proceedings have become an increasing component of the legal system over the last several years. While remote court options offer greater flexibility, both civil and criminal litigants need reliable broadband access to participate effectively in the legal system.[27]

In a collaboration with Next Century Cities, researchers at the Samuelson Law, Technology & Public Policy Clinic at the University of California, Berkeley documented how legal aid organizations could help clients enroll in low-income programs, overcoming otherwise insurmountable trust barriers.[28] Community leaders should seek their partnership when conducting community outreach.

23 *Id.* at 8.

24 LISC Stories, *In Rural Texas, Seeding Small Businesses, and Generational Wealth, with the Help of Kiva—and a Kiva Trustee* (Sept. 17, 2021), https://www.lisc.org/our-stories/story/in-rural-texas-seeding-small-businesses-and-generational-wealth-with-the-help-of-kiva-a-kiva-trustee/.

25 *See* Heather M. Stephens, Elizabeth A. Mack, John Mann, *Broadband and Entrepreneurship: An Empirical Assessment of the Connection between Broadband Availability and New Business Activity across the United States, Telematics and Informatics* (forthcoming Sept. 2022), https://www.sciencedirect.com/science/article/abs/pii/S073658532200106X.

26 Nicole Lewis, Aviva Shen, and Katie Park, *What Could Have Kept Me Out of Prison* (Oct. 27, 2020), https://www.themarshallproject.org/2020/10/27/what-could-have-kept-me-out-of-prison.

27 *See generally* Ross Ufberg, Shalev Netanel, Erik Stallman, and Gabrielle Daley, *Cut off From the Courthouse: How the Digital Divide Impacts Access to Justice and Civic Engagement* (2022), https://nextcenturycities.org/wp-content/uploads/2021/05/cut-off-from-the-courthouse.pdf.

28 *Id.*

By building trust into systems, policymakers can maximize the impact of broadband initiatives.

Affordable Internet initiatives are one example of the way that trust manifests itself, revealing an opportunity to multiply programmatic impacts. Local leaders in communities from **Baltimore, Maryland,** to **San Rafael, California**, found that trust in government was a significant barrier preventing residents who needed affordable Internet services from taking advantage of offerings.

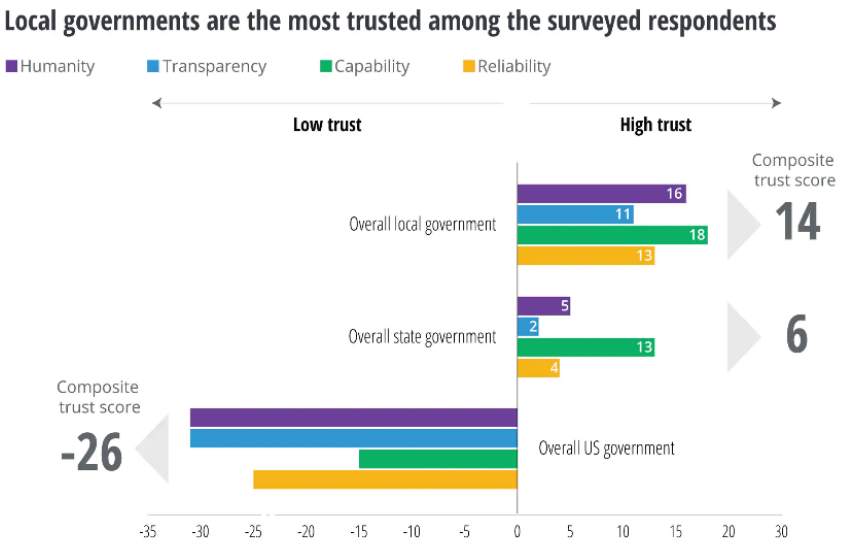

Figure 2:
Local governments are the most trusted among the surveyed respondents.

Chart created by Deloitte Insights, March 9, 2021. Deloitte.com/insights

The Affordable Connectivity Program ("ACP"), originally the Emergency Broadband Benefit ("EBB") program, offers one example. The program's structure is laid out by Congress with rules developed by the Federal Communications Commission that place the burden of applying on the eligible household with a monthly subsidy going directly to the Internet Service Provider (ISP). Without a formalized role and funding for local governments, anchor institutions, or community nonprofits, in many communities, the ACP has pushed uphill against two well-documented issues related to a lack of trust.

Among households making $50,000 or less annually, ISPs are trusted less than schools, local libraries, or community nonprofits when it comes to finding out about discount Internet programs [29]

29 *See generally* EveryoneOn and John Horrigan, Digital Skills and Trust (2022), https://static1.squarespace.com/static/5aa8af1fc3c16a54bcbb0415/t/61fc71248a56247e899c2a20/1643933997111/EveryoneOn_Report_2_DigitalSkills_and_Trust.pdf (Defining trust as the dimension of the digital divide that represents "the degree to which people trust public and private institutions for information on internet service discount plans.").

Residents tend to trust their local government more than state government and trust the federal government least of all.[30]

Local enrollment support bolsters ACP participation.

When the benefit was first introduced as the Emergency Broadband Benefit, it offered a $50 subsidy. In 2022, the program transitioned from the EBB to the ACP, and the subsidy was reduced to $30 on non-tribal lands. To offset the decrease in subsidy, the White House secured voluntary commitments from providers to offer services that are fully covered by the benefit.[31] Despite addressing the benefit amount, consumers continue facing significant hurdles to enrolling in the program and ensuring that providers apply the benefit correctly.

Community organizations have stepped in to fill gaps, using trust built with residents who are eligible. For example, the **City of Austin** offers matching grants to community organizations to support local digital inclusion efforts. The City of Austin's Program Manager for Community Technology:

> **"Technology raises the ceiling of what is possible, but it also raises the floor of what you need to be able to participate. The City's programming is designed to kind of make sure that we're not leaving anyone behind by advancing technology, while also making sure that folks are able to still access it."[32]**

Through its Grant for Technology Opportunities Program ("GTOP") that was established in 2001, the City of Austin helps sustain the ecosystem of local organizations working to improve digital outcomes for residents.

30 John O'Leary, Angela Welle, and Sushumna Agarwal, *Improving trust in state and local government* (Sept. 22, 2021), https://www2.deloitte.com/us/en/insights/industry/public-sector/trust-in-state-local-government.html.

31 The White House, *FACT SHEET: President Biden and Vice President Harris Reduce High-Speed Internet Costs for Millions of Americans* (May 9, 2022), https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/09/fact-sheet-president-biden-and-vice-president-harris-reduce-high-speed-internet-costs-for-millions-of-americans/.

32 Community Technology Network, *Expanding Digital Inclusion with the City of Austin* (Feb. 14, 2022), https://www.communitytechnetwork.org/blog/digital-inclusion-austin-texas/.

Coordination through regular Digital Empowerment Community of Austin ("DECA") calls enables the quick dissemination of information about programs like ACP to the trusted community partners and the populations they serve. Additionally, the City has a dedicated team member to conduct community outreach activities to increase ACP enrollment and coordinate with other supporters and **Travis County**. In August 2023, the National Association of Telecommunications Officers and Advisors (NATOA) named the City of Austin's Community Broadband, Technology & Digital Equity Initiative, as their Digital Equity Project of the Year.[33]

	A lot	Somewhat	Not too much	Not at all
Local public libraries	28%	50%	15%	7%
Schools	22%	51%	18%	9%
Community nonprofits	17%	54%	21%	9%
Internet service providers	10%	47%	32%	11%

Figure 3: Trust in Institutions for Finding Out About Discount Internet Programs. Chart by EveryoneOn and John Horrigan, Digital Skills and Trust (2022)

A great example of local coordination boosting ACP enrollment can be found in **San Antonio**. Digital Inclusion has been a priority of the City of San Antonio's Office of Innovation since a 2019 study commissioned from the University of Texas San Antonio highlighted barriers including unaffordable Internet connections, difficulty using the Internet, unreliable connection speeds, a lack of devices or obsolete devices to access the Internet, and concerns about safety and privacy while online.

In 2022, the Office of Innovation partnered with **Bexar County** and private and philanthropic funders to form SA Digital Connects, a public-private-community partnership established to create a roadmap to expand connectivity in San Antonio and across greater Bexar County. After identifying and interviewing over 140 organizations working to address various aspects of the digital divide, SA Digital Connects is working to coordinate sustainable, long-term solutions that harness collective resources and collaboration to bridge digital gaps.

33 National Association of Telecommunications Officers and Advisors, *Community Broadband & Digital Equity Awards*, https://www.natoa.org/broadband-and-digital-equity (last visited August 25, 2023).

Leveraging the nonprofit coordination capacity of SA Digital Connects and trust in the City of San Antonio local government, community outreach efforts beginning in May 2022 led to a substantial increase in new ACP enrollments: 6,414 and 5,047 in May and June respectively, up from 3,766 in April.[34] Responding to the feedback of local partners, SA Digital Connects developed an ACP toolkit and enrollment guide to help community organizations assist with program applications.[35]

The Benton Institute for Broadband and Society released the results of a January 2023 survey that found that around half of all households eligible for the ACP were unaware of the program.[36]

The impacts of locally led outreach and community coordination are well-documented. Often, these efforts are left underfunded or completely unfunded in the development of State and Federal programs. In November 2022, the FCC released the Notice of Funding Opportunity for $100 million outreach grant programs, aiming to provide funding to partner organizations to make sure that those who are eligible for the ACP hear about it.[37]

In March 2023, the FCC announced $66 million in awards, including awardees in Houston, Austin, Dallas, Irving, Lubbock, Fort Worth, El Paso, and San Antonio.[38] Community leaders already struggling with capacity did not necessarily have the resources to apply for outreach grants, particularly because federal grant applications require extensive expertise and time. Including outreach in program design, rather than as an afterthought, and implementing more straightforward application processes can help maximize programmatic impact.

34 City of San Antonio, Texas, (@COSAGov) (May 23, 2022 at 10:19 a.m.), https://twitter.com/COSAGOV/status/1528742302876938241.

35 SA Digital Connects, *ACP Toolkit*, https://www.sadigitalconnects.com/acp (last visited Nov. 15, 2022).

36 Brian Whitacre, John Horrigan, Alejandro Rojas & Hernan Galperin, *Half of ACP-Eligible Households Still Unaware of the Program* (March 2023), https://www.benton.org/blog/half-acp-eligible-households-still-unaware-program?utm_medium=email&utm_campaign=Newsletters&utm_source=sendgrid&mc_cid=119640728a&mc_eid=81c1b38574.

37 Federal Communications Commission, Notice of Funding Opportunity Affordable Connectivity Outreach Grant Program (Nov. 10, 2022), https://www.fcc.gov/sites/default/files/acp_outreach_grant_program_nofo.pdf.

38 Press release Federal Communications Commission, Consumer and Governmental Affairs Bureau Announces ACP Outreach Grant Program Target Funding (March 10, 2023), https://docs.fcc.gov/public/attachments/DA-23-194A1.pdf.

Building Accountability in the Lone Star State

Building community-centered infrastructure remains equally important to ensuring that everyone in the US has the tools they need to connect. The Affordable Connectivity Program, Lifeline, and other broadband subsidies alone are not enough to eliminate barriers to adoption, particularly in their current iterations.

The City of Harlingen

Like many communities across the U.S., local leaders in Harlingen, Texas, found that many students were not equipped to learn from home when the pandemic suddenly pushed schoolwork online in March 2020.[39] Based on the 2019 Census' American Community Survey, more than 7,800 Harlingen households (over 34 percent of the 23,000 households in the city) did not have access to wireline broadband. As a result, the City developed a partnership with the Harlingen Consolidated Independent School District ("HCISD"), committed $4 million in CARES Act funding to fund a core network and has begun exploring wireless and fiber deployments to determine the best technology for their community.[40]

The City of Brownsville

Another example of communities working to bridge gaps through local infrastructure comes from Brownsville. The City engaged with residents via a community survey on how best to address gaps in connectivity and access. Because of this outreach, Brownsville was positioned to use ARPA funding to build out middle-mile infrastructure in a way that benefited its residents.[41] The City then contracted with BTX Fiber, who would lease the publicly owned fiber and complete the connection to residences and businesses. Capitalizing on the new, affordable high-speed Internet availability, the City doubled down on its community engagement efforts by offering workforce development training and telehealth expansion.[42]

39 Sean Gonsalves, *Harlingen, Texas, Looks to Build Bridge Just North of the Border* (Jan. 11, 2022), https://muninetworks.org/content/harlingen-texas-looks-build-bridge-just-north-border?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters.

40 *Id.*

41 Letter from Jordana Barton-Garcia Principal, Barton-Garcia Advisors Senior Fellow, Connect Humanity to the Honorable Chairman Jim Himes and Committee Members House Select Committee on Economic Disparity and Fairness in Growth "Infrastructure Investment: Building Economic Resilience in South Texas" Regional Hearing, Weslaco, Texas at 4-8 (June 17, 2022), https://fairgrowth.house.gov/sites/democrats.fairgrowth.house.gov/files/documents/Jordana%20Barton-Garcia%20Written%20Statement.pdf.

42 *Id.*

The City of Pharr

The City of Pharr and local anchor institutions partnered to distribute a community survey to solicit resident input on addressing a staggering digital divide in the area. Informed by the survey responses, the City worked with partners to develop a municipal ISP that is providing fiber-to-the-home high-speed broadband. Pharr is participating in the FCC's Affordable Connectivity Program to provide affordable access to its residents, in addition to establishing affordable service tiers of $25/month for 500 Mbps symmetrical and $50/month for 1 Gb symmetrical.[43] Additionally, Pharr is investing in its youth by providing information technology workforce training to students who intern or apprentice at an ISP helpdesk. NATOA recognized the City of Pharr's initiative as one of its Community Broadband Projects of the Year.[44]

The City of Mont Belvieu

A Texas pioneer in community-driven infrastructure is **Mont Belvieu**'s MBLink.[45] The City navigated problems similar to those faced by other rural areas throughout the country: large ISPs didn't see a strong enough business case to expand their footprint, upgrade Internet speeds, or offer any Internet service to certain residents. After overcoming the hurdles around issuing bonds and not having an electrical utility, beginning in June 2018 every residence in Mont Belvieu was eligible to sign up for the city's Internet service, MBLink.[46]

Building on the public trust developed through years of transparent community conversations, feasibility studies, and court petitions, by the time the network was ready to go live, MBLink had already signed up nearly ⅓ of the city's 7,500 households. The local data center and customer support staff have further bolstered trust in MBLink, and about half of the households were signed up by the end of 2019.

When community needs are able to drive locally-controlled Internet infrastructure investments, the networks can benefit from trustworthy relationships established between cities, counties, and anchor institution partners. In cases where schools and libraries step up to fill connectivity gaps in their communities, established trust in these anchor institutions and residents' familiarity with existing services reduce obstacles. Notably, when a local government takes the lead, residents are able to trust the same people who already provide their water, sewer, or electricity to provide their Internet, leading to improved outcomes like those in Mont Belvieu.

43 City of Pharr, *TeamPharr.net*, https://pharr-tx.gov/teampharr-net-experience/, (last visited Aug. 30, 2023).

44 National Association of Telecommunications Officers and Advisors, *Community Broadband & Digital Equity Awards*, https://www.natoa.org/broadband-and-digital-equity (last visited August 25, 2023).

45 Lisa Gonzalez, *Mont Belvieu Lights the Way for Texas* (Nov./Dec. 2018), https://www.bbcmag.com/community-broadband/mont-belvieu-lights-the-way-for-texas.

46 Melissa Repko, *Fed Up With Slow and Spotty Internet, A Small Texas Town Decided to Build its Own High-Speed Network* (Dec. 22, 2019), https://www.seattletimes.com/business/fed-up-with-slow-and-spotty-internet-a-small-texas-town-built-its-own-high-speed-network/.

With close physical and relational proximity to residents impacted by digital inequities, local governments and community organizations are building accountability into broadband programming. Meaningful dialogues with impacted community members combined with local leadership passionate about improving digital opportunities are transforming the way that residents understand the level of service available in their neighborhoods and providing them with a seat at the table to improve it.

The Death Star Law

Signed in June 2023, a Texas law received considerable press coverage – in addition to lawsuits from the Cities of Houston and San Antonio.[47] House Bill 2127, better known by its nickname the "Death Star" law, went into effect on September 1, 2023.[48] The legislation preempts local governments from adopting local ordinances, orders, and rules that restrict businesses more than existing state law, further eroding local decision-making. As the lawsuits explain, the Texas constitution limits state preemption to cases where a direct conflict between state and local law exists, leaving open questions about the law's constitutionality.[49] In the interim, ambiguity about local authority could hinder city and county governments from maximizing broadband funding's impact.

47 See Craig Huber, *San Antonio sues Texas over so-called 'Death Star' bill* (July 24, 2023), https://spectrumlocalnews.com/tx/south-texas-el-paso/news/2023/07/24/san-antonio-sues-texas-over-so-called--death-star--bill-.

48 See *generally* Texas H.B. No. 2127 (2023), https://capitol.texas.gov/tlodocs/88R/billtext/pdf/HB02127F.pdf#navpanes=0.

49 Press release, City of Houston Mayor's Office, City of Houston Files Suit Against the State of Texas' "Death Star" Super Preemption Law (July 3, 2023), https://www.houstontx.gov/moc/city-files-suit-against-death-star-law.html.

The State of Texas is taking ownership of broadband gaps.

Just as local governments across Texas have implored innovative solutions to connect residents and businesses, State government agencies have similarly prioritized broadband policy. The Comptroller's Office houses the Texas Broadband Development Office, which manages broadband grant and loan programs, conducts community engagement, and offers resources to help local governments and community leaders.[50]

While the Public Utilities Commission does not directly oversee broadband, its authority over electric utilities enables them to adjust state policies to improve broadband infrastructure. State agency leadership is critical to ensuring that federal policies address community needs and provide additional channels of communication for local leaders to learn about broadband programs.

Federal broadband mapping directly impacts Texas communities.

Broadband leaders across the state know that existing federal and state maps do not accurately reflect residents' experience. Local news outlets in Texas have documented inconsistencies between advertised service (as shown on the National Broadband Map) and actual service quality. The Texas Tribune quoted instructional technology specialist for Hudson Independent School District, Joan Ragland, who said. "You look at the map, and it looks like everybody is covered. But everybody is not covered."[51] The Tribune also reported that Ryan Crowe, executive director for the Floydada Economic Development Corporation said, "In the city itself, we have decent coverage. But it seems like you get right outside of the city and it's going to drop off to nothing. There's no way Floydada is as covered as it says it is, it just can't be."[52]

The Waco Tribune similarly raised awareness about Texas broadband mapping, quoting State Representative Charles "Doc" Anderson, who said that "[information provided by ISPs] is oftentimes notoriously unreliable. Someone may say southeast McLennan County is served, but it is far from it.

50 See Texas Broadband Development Office, https://comptroller.texas.gov/programs/broadband/.

51 Pooja Salhotra, *With billions of dollars on the line, East Texans say a crucial state map incorrectly shows they already have broadband* (March 29, 2023), https://www.texastribune.org/2023/03/29/east-texas-internet-broadband-access-maps-petition/.

52 Jayme Lozano Carver & Pooja Salhotra, Texas will spend billions to connect the state with broadband. But is it clear which neighborhoods need help? (June 9, 2023), https://www.texastribune.org/2023/06/09/texas-broadband-investment-maps/?mc_cid=0b7d49ebd1&mc_eid=81c1b38574.

The Comptroller's Office is getting initial information out there, and hopefully customers will call and efforts will be made to update the map."[53]

Inaccurate broadband mapping directly impacts whether local leaders can access the biggest funding opportunity in United States history. In June 2023, NTIA announced that Texas would receive over $3 billion for broadband—more than any other U.S. state or territory.[54] With billions of dollars available, local leaders across the state are rightfully concerned that incomplete mapping will inhibit the amount of funding they receive for broadband. When broadband maps overstate coverage, communities are too often excluded from much-needed funding.

As residents in East Texas raised concerns about the state's broadband map through the state's survey, one state legislator championed legislation to expand the state's definition of broadband quality.55 SB 1238, signed into law in June 2023, maintains the 25/3 Mbps speed threshold but expands the definition to include a latency standard.[56] Many rural residents, particularly in East Texas, have no wireline broadband service, limiting those households to only satellite or fixed wireless, if it is available. Another bill that would have required the Comptroller's Office to update the state's speed definition if the FCC updates the federal standard, which has not been updated since 2015.[57] In May 2023, the bill was postponed.

In May 2021, NCC published state-by-state information about broadband mapping across the U.S., and the State of Texas's role has expanded in that relatively short time period.[58] Federal maps are integral to broadband mapping in Texas because they often impact funding opportunities and determine which areas receive funding allocations for broadband projects.[59]

53 Mike Copeland, Texas broadband map to aid funding decisions, shows Waco well-connected (Jan. 20, 2023), https://wacotrib.com/news/local/govt-and-politics/texas-broadband-map-to-aid-funding-decisions-shows-waco-well-connected/article_d38eda58-9824-11ed-85be-7ff1d76eee7e.html.

54 Press release, NTIA, Biden-Harris Administration Announces State Allocations for $42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda (June 26, 2023), https://broadbandusa.ntia.doc.gov/news/latest-news/biden-harris-administration-announces-state-allocations-4245-billion-high-speed.

55 Pooja Salhotra, *With billions of dollars on the line, East Texans say a crucial state map incorrectly shows they already have broadband* (March 29, 2023), https://www.texastribune.org/2023/03/29/east-texas-internet-broadband-access-maps-petition/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email.

56 Texas S.B. No. 1238 (2023), https://capitol.texas.gov/BillLookup/History.aspx?LegSess=88R&Bill=SB1238.

57 Texas H.B. No. 2662 (2023), https://capitol.texas.gov/BillLookup/History.aspx?LegSess=88R&Bill=HB2662.

58 *See* Francella Ochillo, Ryan Johnston, Corian Zacher & Lukas Pietrzak, Broadband Mapping Across the US: Local, State, and Federal Methods and Contractions, (May 2021), https://nextcenturycities.org/wp-content/uploads/2021/05/ShowMeYourMaps-Report-Updated-November-2021-Texas.pdf.

59 *See e.g.* Masha Abarinova, *Texas comptroller unveils plans for statewide broadband coverage map* (June 16, 2022), https://www.fiercetelecom.com/broadband/texas-comptroller-unveils-plans-statewide-broadband-coverage-map.

Significant inaccuracies in federal broadband mapping led Congress to pass the Broadband DATA Act in 2020, which requires the FCC to update its existing mapping processes.[60] Internet Service Providers submitted data for the revised, more granular mapping process by September 1, 2022. The FCC released its updated map on November 18, 2022.[61]

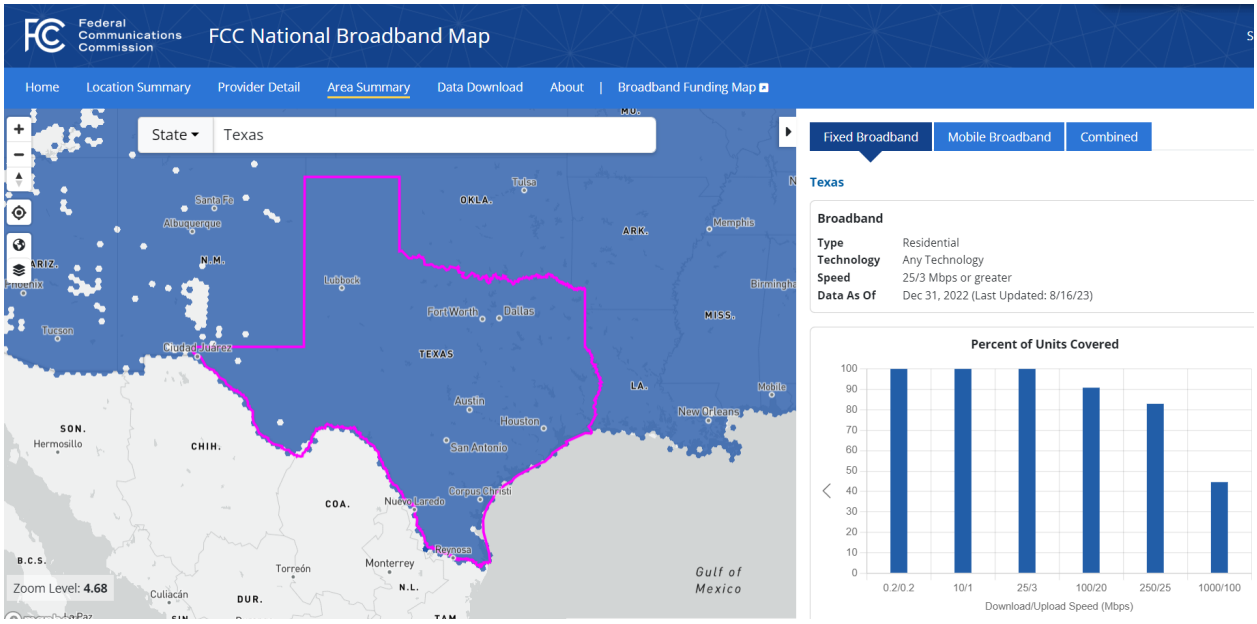

Figure 4: The FCC's updated Broadband Availability map shows that almost 10% of Texas still lacks wired service offering speeds of 100/20 Mbps, the new target speed for federal funding programs. Oftentimes, local experiences differ from providers' advertised service offerings.

State and local government challenges to the underlying map of buildings that require a broadband connection are ongoing at the time of this publication. Importantly, those maps will determine how much funding Texas will receive for broadband from the Infrastructure Investments and Jobs Act, passed in November 2021. Each state will receive at least $100 million for the Broadband Equity, Access, and Deployment program, and the FCC's calculation of unserved households in that state will determine additional allocations from the National Telecommunications and Information Administration (NTIA).[62]

60 See Ryan Johnston, *Form 477 Data Undermines Conclusions in the 2020 Broadband Deployment Report* (May 8, 2020), https://nextcenturycities.org/form-477-data-undermines-conclusions-in-the-2020-broadband-deployment-report/.

61 See press release, Federal Communications Commission, FCC To Release New Broadband Maps on November 18 (November 11, 2022), https://www.fcc.gov/document/fcc-release-new-broadband-maps-november-18.

62 Next Century Cities, *Broadband Mapping Timeline* (Nov. 2022), https://nextcenturycities.org/wp-content/uploads/2021/05/Broadband-Mapping-Timeline-updated-Nov.-10-2022.pdf.

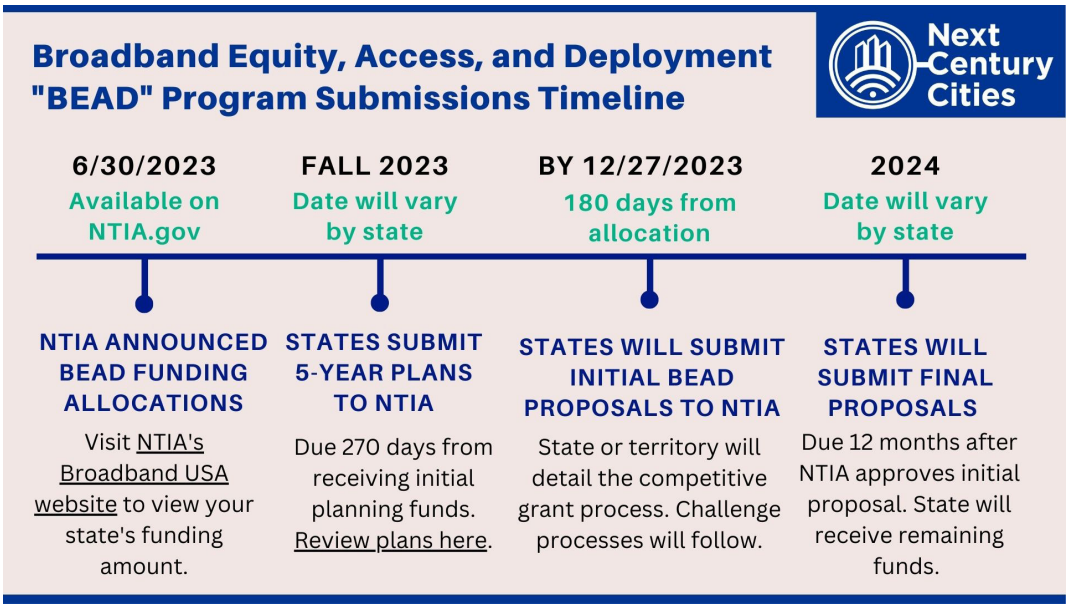

Figure 5: The Broadband Equity, Access, and Deployment Timeline. The National Telecommunications and Information Administration announced broadband funding amounts in June 2023. Absent state and local efforts to improve these datasets, communities risk losing out on funding opportunities through $42.45 billion Broadband Equity, Access, and Deployment program.

Texas Broadband Development Office

In contrast to the small handful of state broadband efforts in place a decade ago, all 50 states across the US now have a broadband program of some type.[63] Texas is one of the 34 states with a centralized broadband authority.[64]

Passing House Bill 5 in June of 2021, the Texas legislature established the broadband development office under the Texas Comptroller of Public Accounts (Comptroller or CPA) to promote the expansion of broadband access across Texas. Placing the office under the Comptroller helps to insulate the office from the politics of the Governor's office, guarantees a commitment to transparency and data-driven decisions, and leverages the technical expertise required to provide grants to localities.

In addition to the placement of the office, the robust community engagement undertaken by the Texas Broadband Development Office provides a model for other states. Since 2021, its listening tour has invited local leaders and residents to share broadband concerns at12 public town halls and 60 round tables across the state.[65] BDO officials have also met with over 1,000 Texans and received

63 *See* Anna Read & Lily Gong, *Which States Have Dedicated Broadband Offices, Task Forces, Agencies, or Funds?* (updated Aug. 9, 2022), https://www.pewtrusts.org/en/research-and-analysis/articles/2021/06/28/which-states-have-dedicated-broadband-offices-task-forces-agencies-or-funds.

64 *Id.*

65 Texas Broadband Development Office, Texas Broadband Listening Tour, https://comptroller.texas.gov/programs/broadband/communities/tour.php (last visited Aug. 19, 2022).

over 16,000 survey responses.[66] According to Glenn Hegar, Texas Comptroller of Public Accounts:

> **"More than 16,000 Texans have used our survey to share their broadband experiences. [The] sentiment has been consistent: slow data speeds, unreliable access, affordability and coordination are critical areas of concern for Texas families, businesses, educators and farmers. An important, recurring theme has been the reminder that though high-speed Internet may once have been a luxury, it is now a necessity. Texans need reliable, high-speed connectivity for public health, safety, education and modern agriculture."[67]**

A final aspect of the Texas Broadband Development Office worth replication and adaptation is the commitment to local partnerships. In addition to naming local coordination in their guiding principles,[68] the creation of toolkits,[69] and direct guidance for local leaders provide a level of support beyond what is seen in most states.

66 *Id.*

67 *Id.*

68 *Id.*

69 Texas Broadband Development Office, Broadband Toolkit, https://comptroller.texas.gov/programs/broadband/toolkit/ (last visited Aug. 19, 2022).

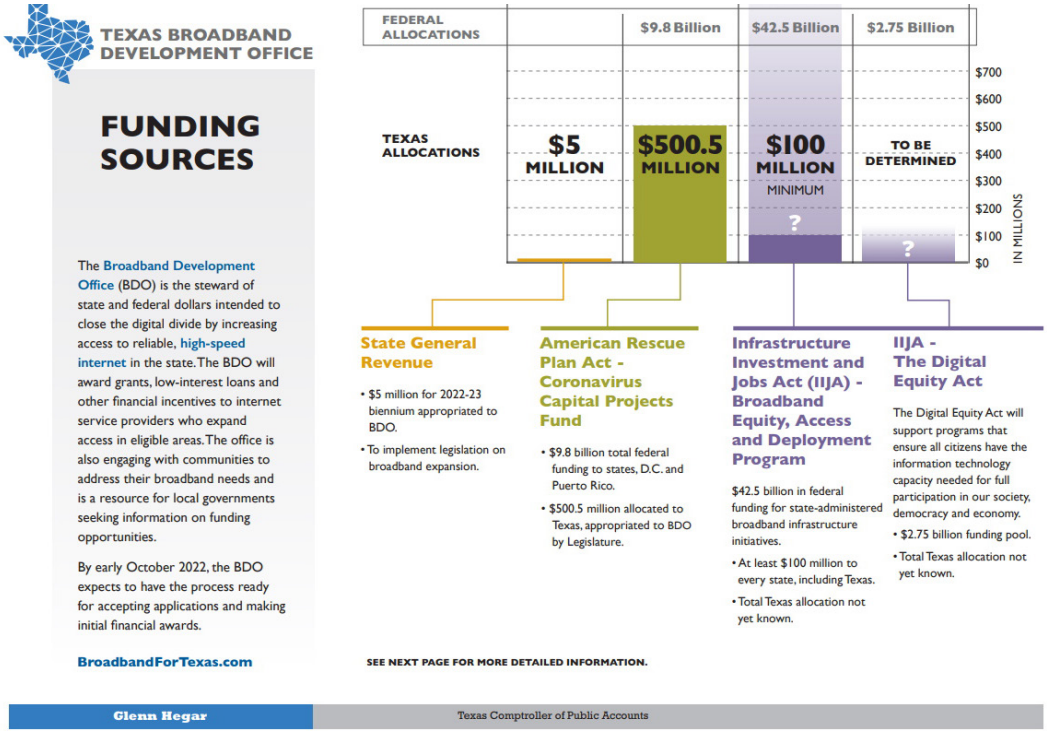

Figure 6: Graphics like this one provided by the Texas Broadband Development Office help local leaders understand what funding sources may support programs in their communities.

Texas Public Utilities Commission

In April 2022, the Texas Public Utilities Commission adopted a rule that allows electricity providers to lease their excess fiber capacity to broadband providers in unserved and underserved parts of the state.

In a press release announcing the policy change, Governor Greg Abbott stated that:

> **"Broadband is an essential tool for education, telemedicine, businesses, and more – which is why the State of Texas has prioritized closing the digital divide and ensuring Internet access across the Lone Star State. The adoption of the first middle mile rule is an incredible achievement for Texas, and it will enhance our efforts to expand broadband access in underserved communities across the state."[70]**

70 Press release, Public Utility Commission of Texas Approves Middle Mile Broadband Rule, Public Utilities Commission of Texas (April 2022), https://www.puc.texas.gov/agency/resources/pubs/news/2022/middlemilerelease.pdf?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters.

State middle-mile policies have played important roles in expanding infrastructure across the U.S. For example, when Massachusetts planned its statewide middle-mile network, several local governments partnered with the state early on and used the infrastructure to improve local service offerings through partnerships.[71] In January 2021, Kentucky became the first state to secure at least one local-service-friendly node for each of its 120 counties through its middle-mile network, KentuckyWired.[72] Those same success stories could now find their way to broadband deserts in Texas by harnessing infrastructure owned by electric utilities.[73]

71 *See e.g.* WHAV, *Massachusetts Broadband Institute Supports Internet Help in Haverhill, Methuen and Lawrence* (Dec. 22, 2021), https://whav.net/2021/12/22/massachusetts-broadband-institute-supports-internet-help-in-haverhill-methuen-and-lawrence/ ("The Wi-Fi Hotspot program, launched in April 2020 as a response to the COVID-19 pandemic, provided outdoor, high-speed wireless access points in so-called "Last Mile" communities that lack broadband access. Built off of the state-owned MassBroadband 123 network, the service was expanded to include indoor hotspots and reached a peak of Wi-Fi sites in 26 communities.").

72 The Lane Report, *Kentucky Wired Opens the Digital Spigot* (Jan. 29, 2021), https://www.lanereport.com/137805/2021/01/kentucky-wired-opens-the-digital-spigot/.

73 *See* Isa Peterson, *How Can the New "Middle Mile" Broadband Rule Help Texans?* (April 7, 2022), https://texasimpact.org/2022/04/how-can-the-new-middle-mile-broadband-rule-help-texans/.

Recommendations

Federal Policymakers

- Build flexibility into programs, enabling local leaders to tailor solutions to residents' needs. Further, clear guidance about what is and is not allowed helps communities ensure that their broadband plans do not compromise other funding opportunities.
- Develop comprehensive solutions that promote opportunities for residents to provide community-based insights on federal programs. Funding directed toward broadband projects should also include community outreach and collaborations with trusted community messengers.
- Support local efforts to hold federal and state grantees accountable for serving their communities as promised in the applicant's federal and state grant applications. Local leaders devote countless resources to addressing residents' concerns, which provides insight into areas where federally funded initiatives have not accomplished stated goals. Increasing channels of communication between local and federal leaders can help ensure that federal funding provides the maximum impact.

State Legislators

- Expand local autonomy over broadband. Local leaders have built-in accountability and earned community trust. Franchise agreements are one area where local autonomy has been limited over the last two decades. Restoring that authority would benefit Texas residents who look to their local leaders for answers to questions about why broadband is not reaching their neighborhoods.
- Coordinate with local leaders on state and regional planning. Collaboration is needed long before programs launch. Ongoing workgroups that include local officials and community-based organizations can help create feedback loops to ensure that network infrastructure is frequently maintained and upgraded.
- Support community-led broadband programs to compound funding impacts. Encouraging residents to get broadband access and adoption support where they are already familiar with accessing services will help eliminate trust barriers.

Local Officials

- Conduct listening sessions to capture feedback directly from residents. Also, record local broadband availability and adoption needs to highlight gaps in state and federal datasets.
- Develop partnerships with regional and state leaders to coordinate efforts to identify resources, develop knowledge efficiencies, and create sustainable and expandable broadband initiatives.

Nonprofit Leaders

- Explore mission overlap areas to develop intersectional broadband initiatives.
- Identify barriers to broadband adoption. Oftentimes, they reveal opportunities to fill local needs in partnership with community-based organizations.

Community Members

- Get involved in local broadband projects in the community. Volunteer-driven programs expand capacity and invite systemic change from residents.
- Encourage local, nonprofit, and other community leaders to prioritize high-quality broadband for all residents and bring the pressing need for ubiquitous connectivity to the forefront of policy discussions.

Conclusion

As technology touches more aspects of our lives, the need for high-quality, reliable broadband will increase. Expanding networks will take partners at all levels of government collaborating with nonprofits, philanthropy, and the private sector. Trustworthy and transparent processes are necessary safeguards to ensure that an increase in broadband access and adoption brings meaningful benefits to communities across the U.S.

Texas illustrates that all levels of government play a role in identifying community needs and developing programming that addresses the myriad of services broadband makes available. Its communities provide a model for municipalities and counties nationwide. They showcase the strides that local governments can make even when strapped by state broadband restrictions. State policies should improve local autonomy and invest in local solutions, reflecting the unique role that community initiatives play in bridging the digital divide for all Texans.

Acknowledgements

Special thanks to our Next Century Cities colleagues, Francella Ochillo, Brittany-Rae Gregory, Ryan Johnston, Roxanna Barboza, and Symone Campbell as well as local leaders across Texas who contributed their stories to this case study, including: Megan Morris (Tarrant County), Commissioner Adrian Garcia, Francis Nugent, and John Speirs (Harris County), Rondella Hawkins and Khotan Harmon (City of Austin), Minister Dominique Alexander (Next Generation Action Network), Marina Alderete Gavito (Digital Connects), and Jordana Barton-Garcia (Connect Humanity). Additional thanks to partner organizations including The Pew Charitable Trusts and the Benton Institute for Broadband and Society, whose research influenced this publication.

Next Century Cities

FIND MORE RESOURCES AT

BROADBANDHUB.ORG