

# BROADBAND FOR ALL

*Case Studies*

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## THE BIG PICTURE

The American Rescue Plan Act of 2021 (ARPA) has the potential to address several of the primary issues historically associated with broadband access in America, including funding concentration among few ISPs, unreliable data regarding broadband coverage, and device ownership disparities on the basis of income and age. This project studied a set of outstanding broadband projects using ARPA funding to understand how localities are addressing the critical issues of accessibility, affordability, and adoption to infuse equity into their broadband expansion efforts. Our major finding is that, across projects, **harnessing the power of innovative partnerships bolsters local capacity, providing the tools necessary to overcome barriers in the areas of funding, determination of need, and implementation** to best advance project goals.

The strength of this project is our identification of a diverse set of cases, each with varying sizes, project types, approaches, funding sources, outcomes, and more. In particular, each of these cases addressed different aspects of the digital divide as understood by the “Three ‘A’ Framework” of accessibility, affordability, and adoption. Identifying shared themes across these cases therefore provides great insight into those areas, such as formation of innovative partnerships, which all broadband projects may focus on for success.

*To view our full issue brief, please visit:*

[https://labs.aap.cornell.edu/sites/aap-labs/files/2022-05/Faulwell%20etal%282022%29%20BroadbandForAllIssueBrief\\_5.pdf](https://labs.aap.cornell.edu/sites/aap-labs/files/2022-05/Faulwell%20etal%282022%29%20BroadbandForAllIssueBrief_5.pdf)

## METHODOLOGY

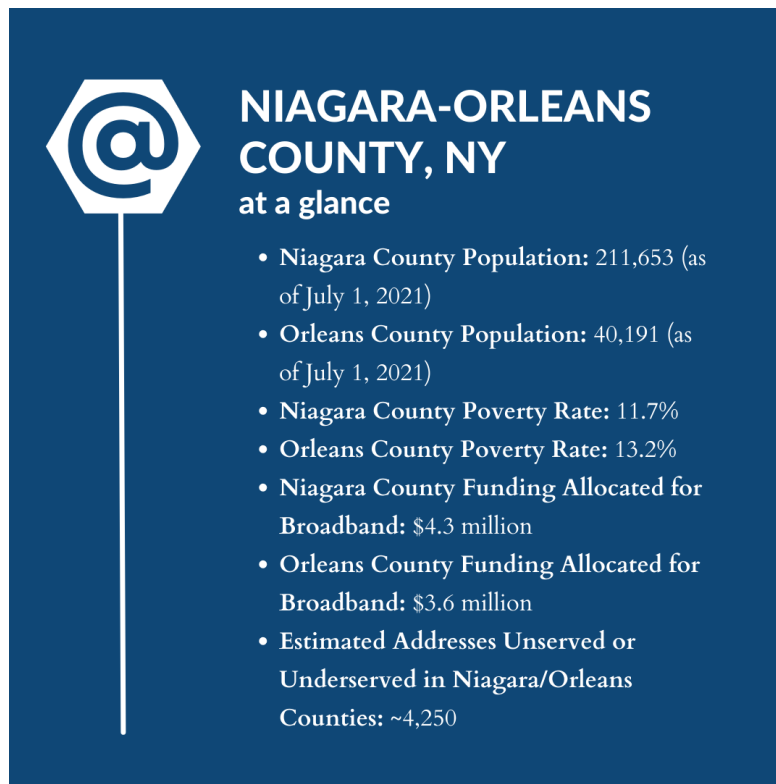
We employed a three-step process in order to identify and learn from localities using ARPA funding to expand broadband within their communities.

1. **Identification:** We searched publicly available ARPA funding databases (especially ILSR's Community Networks [Big List of American Rescue Plan Community Broadband Projects](#)) to identify broadband-related projects.
2. **Verification:** We cross-checked identified projects with municipal budgets and plans to understand these expansion efforts and pinpoint areas of interest.
3. **Analysis:** We picked four outstanding case studies and interviewed key personnel for further insight into how their project is proceeding. Interview questions focused primarily on finding out how the project promotes accessibility, affordability, and/or adoption. These case studies, included below, detail broadband expansion efforts in:
  - Niagara/Orleans County, NY (p. 3)
  - Franklin County, OH (p. 8)
  - Dutchess County, NY (p. 14)
  - Southern Tier Region, NY (p. 19)

# 1: NIAGARA & ORLEANS COUNTY, NY

By: Hannah Faulwell

The Niagara-Orleans Regional Alliance (NORA) was established by resolution of each Legislature under the leadership of Legislator David E. Godfrey of Niagara County and Legislator Lynne M. Johnson of Orleans County. The primary motivation behind the establishment of NORA was to formalize a partnership that would streamline efforts toward the facilitation of high speed broadband internet access for every household in Niagara and Orleans Counties (Johnson and Godfrey, n.d.). NORA's work toward this end provides a comprehensive, real-world model for other local bodies seeking to expand high speed broadband internet access for their own unserved and underserved households, and especially for local bodies seeking to use federal funding (including ARPA funding) toward fulfillment of this goal. The broadband expansion effort in Niagara and Orleans Counties met many barriers, but employed efficient methods to overcome these barriers, including coverage mapping, creative procurement of funding, and comprehensive outreach. These efforts have greatly promoted affordability, accessibility, and adoption of broadband service in the region.



**NIAGARA-ORLEANS COUNTY, NY**  
at a glance

- **Niagara County Population:** 211,653 (as of July 1, 2021)
- **Orleans County Population:** 40,191 (as of July 1, 2021)
- **Niagara County Poverty Rate:** 11.7%
- **Orleans County Poverty Rate:** 13.2%
- **Niagara County Funding Allocated for Broadband:** \$4.3 million
- **Orleans County Funding Allocated for Broadband:** \$3.6 million
- **Estimated Addresses Unserved or Underserved in Niagara/Orleans Counties:** ~4,250

## Major Steps

### Funding: A Fortunate Series of Events

NORA's plans to obtain funding for broadband expansion got off to a shaky start when the effort to secure state funding was blocked by private actors. "We got blocked, basically, by Spectrum, who claimed that they had all the areas [covered], and we couldn't bid on those areas," says Legislator Godfrey. Spectrum, of course, was using the inflated projections of Internet coverage provided by FCC Form 477 data, which, as discussed above, classifies as "covered" an entire Census block, even if only the smallest minority of addresses within the Block are covered, and a majority of addresses are not. Even with thousands of addresses left behind, states are reluctant to grant funds for areas considered "served" by an existing provider (Gonsalvez, 2021).

After its efforts to obtain state funding were blocked, NORA turned toward federal sources of funding. It began by pleading its case for USDA Rural Development funding, then jumped at the opportunity to make use of ARPA funding once it became available (Godfrey, D. and Johnson, L., personal communication, March 23, 2022). Legislator Godfrey says this decision to use ARPA funding toward broadband was not difficult to make: "Of all the different opportunities to spend that funding, [although] obviously there are needs everywhere, when you think about people not having Internet access, that is the foundation for everything...So it was unanimous...There was no argument whatsoever in my legislature because they recognized that that is as important, as we've always said, [as] electricity itself" (Godfrey, D., personal communication, March 23, 2022).

NORA's express willingness to use ARPA funds toward broadband expansion actually helped secure further funding toward the effort: "[Because of the funding for certain towers in low-income areas with CDBG grant money] and Congressman Jacobs' award to us [within congressional omnibus funding] the amount of ARPA funds we were originally willing to put out isn't going to be as high now. But [it] says a lot with both county legislature bodies being willing to use the ARPA funds, because they both realize how important this is," says Legislator Johnson. "I don't think we would have gotten Congressman Jacobs' support if he didn't see that we were going to [use] our ARPA funds [toward broadband expansion]" (Johnson, L., personal communication, March 23, 2022).

### Determining Need: Comprehensive Coverage Mapping

A point of issue at the outset of many broadband expansion efforts is the insufficiency of existing information on coverage conditions, including Internet Service Provider (ISP) coverage maps and FCC Form 477 data (Johnson and Godfrey, n.d.). In particular, FCC Form 477 data utilizes a Census Block data model which classifies an entire Census Block as “covered” if at least one address within the Block has Internet access (Johnson and Godfrey, n.d.). This methodology provides an inflated view of actual coverage conditions, because even if, say, one hundred addresses in a Census Block do not have Internet access, but one address does have Internet access, the entire Block is still considered “covered” in FCC Form 477 data. NORA considered this data formula inherently flawed: “Over the years,” says Niagara County Legislator Godfrey, “Lynne and I had testified at the Public Service Commission and other places, and they finally - not that long ago, maybe a couple years ago - recognized that the Census block algorithms were backwards” (Godfrey, D., personal communication, March 23, 2022). Legislator Godfrey and Legislator Johnson’s stance is that the formula must be inverted, such that if even one address in the Census Block does not have Internet access, the entire Census Block should be considered “not covered” - even if one hundred other addresses within the Block are served (Johnson and Godfrey, n.d.).

NORA, therefore, set out to identify for itself addresses without Internet access. The Highway Departments of each town in the two counties that opted into the coverage study were trained to document Internet coverage on a road-by-road basis (Johnson and Godfrey, n.d.). The effort identified, across 17 total towns, nearly 4,000 address points unserved by Internet access, and even more considered “underserved,” meaning that existing coverage is of insufficient speeds (Johnson and Godfrey, n.d.). Many of these addresses would have been overlooked by FCC Form 477 data and ISP coverage maps (Johnson and Godfrey, n.d.). Such thorough methodology seemed to be common sense for NORA. Legislator Godfrey puts it simply: “We drove every road and we mapped everything. We put a pushpin in a map showing where there was not Internet” (Godfrey, D., personal communication, March 23, 2022).

## **Implementation: Targeted Community Outreach**

In Orleans County, where broadband expansion has been able to proceed slightly faster than in Niagara County due to differences in size, outreach efforts have already begun to ensure widespread adoption of newly accessible broadband services. After being awarded a Community Development Block Grant to use toward expanding services for low-income eligible residents, Orleans County put out a bid to find a local nonprofit that

was willing and able to engage with communities needing help accessing or affording Internet services (Godfrey, D. and Johnson, L., personal communication, March 23, 2022). The county has contracted with the United Way to educate residents who need assistance understanding how to access available broadband services, as well as to identify need and fund Internet hookup units within the homes of low-income residents (Godfrey, D. and Johnson, L., personal communication, March 23, 2022). United Way is also working to organize access points where residents can go directly to sign up for assistance (Godfrey, D. and Johnson, L., personal communication, March 23, 2022).

Niagara County has similar intentions, moving forward, to target specific audiences and ensure everybody gets connected. “Going forward, we can work with the different Common Councils in [low-income areas], the cities, and so on, and work with them and try to identify some grants that can help them,” says Legislator Godfrey (Godfrey, D., personal communication, March 23, 2022).

## Key Observations: Broadband Progress Through The Three “A” Framework Lens

- **Accessibility:** NORA aims to achieve 100% connectivity; meaning, accessibility for all. The partnership’s Rural Broadband Initiative statement proclaims the working goal of bringing “desperately needed high-speed, dependable, and affordable service to every home, every business, and to the last child on the last mile of Orleans and Niagara Counties” (Johnson and Godfrey, n.d.). “It is every single address point,” affirms Legislator Godfrey (Godfrey, D., personal communication, March 23, 2022). “We’ve asked the vendor [RTO Wireless] that Orleans has now contracted with [to achieve] 100% county coverage, no matter what it took. If it took an extra tower over in Holly or one in Carlton - whatever it took, we wanted to end the day with 100% coverage,” says Legislator Johnson (Johnson, L., personal communication, March 23, 2022).
- **Affordability:** The broadband expansion being undertaken by NORA introduces competition into a marketplace previously dominated by Spectrum, a monopoly provider. Introducing competition encourages service improvement while also driving down costs (Gonsalvez, 2021). “The other thing this whole project affords us is competition in the marketplace,” says Legislator Johnson. “Right now the only vendor we have is Spectrum, so we’re tied to whatever their cost structure is” (Johnson, L., personal communication, March 23, 2022). Niagara is still in the market for a vendor, but the vendor for Orleans County also

offers a stepped pricing schedule, allowing residents to find the least expensive Internet plan that best suits their needs (Godfrey, D. and Johnson, L., personal communication, March 23, 2022).

- **Adoption:** Orleans County has partnered with the United Way to engage with the community, advance digital literacy, and improve Internet access, especially among low-income residents (Godfrey, D. and Johnson, L., personal communication, March 23, 2022). Niagara County anticipates similar adoption outreach efforts moving forward (Godfrey, D. and Johnson, L., personal communication, March 23, 2022).

## Sources

- Institute for Local Self Reliance (ILSR). (n.d.). *Our big list of American Rescue Plan community broadband projects*. Community Networks. <https://muninetworks.org/content/our-big-list-american-rescue-plan-community-broadband-projects>
- Gonsalves, S. (July 7, 2021) The Problem(s) of Broadband in America [Brief]. *Institute of Local Self Reliance*. URL: <https://ilsr.org/policy-brief-the-problems-of-broadband-in-america/>
- Johnson, L.M. & Godfrey, D.E. (n.d.). *Niagara-Orleans Regional Alliance - Rural Broadband Initiative*. [Release]. [https://www.ntia.doc.gov/files/ntia/publications/ntia\\_comments\\_from\\_nora.pdf](https://www.ntia.doc.gov/files/ntia/publications/ntia_comments_from_nora.pdf)
- Johnson, L.M. & Godfrey, D.E. (2022, March 23). Personal communication [Video interview].
- Prohaska, T.J. *Federal funds bring broadband service to Niagara, Orleans counties*. The Buffalo News. [https://buffalonews.com/news/local/federal-funds-bring-broadband-service-to-niagara-orleans-counties/article\\_c73eb740-f547-11eb-af15-b7e6350081fe.html](https://buffalonews.com/news/local/federal-funds-bring-broadband-service-to-niagara-orleans-counties/article_c73eb740-f547-11eb-af15-b7e6350081fe.html)
- U.S. Census Bureau. (n.d.). *Niagara County, NY Quick Facts*. U.S. Census Bureau. <https://www.census.gov/quickfacts/niagaracountynewyork>
- U.S. Census Bureau. (n.d.). *Orleans County, NY Quick Facts*. U.S. Census Bureau. <https://www.census.gov/quickfacts/orleanscountynewyork>

## 2: FRANKLIN COUNTY, OH

By: Edward Guo

**Franklin County Population:** 1,321,414 (July 2021)

**Franklin County Poverty Rate:** 15.4%

**Franklin County Senior Citizens:** 163,855 (12.4%) (July 2021)

**Technology Adoption Project Funding from ARPA:** \$80,585

**Technology Adoption Project Funding from CARES:** \$87,000

Using a total of around \$170,000 in CARES and ARPA funding, Franklin County, Ohio and its Office on Aging partnered with two local community organizations, Central Community House (CCH) and Community Refugee and Immigration Services (CRIS), to provide socially and economically disadvantaged seniors living in qualified census tracts with over 200 computers and thousands of hours of technology training.

While this project does not involve expanding the access or increasing the affordability of broadband infrastructure, it addresses the often ignored issue of user adoption in broadband and technology-expansion projects. According to project surveys and interviews with project leaders in the two community organizations, the devices and training provided by the program have significantly decreased the social isolation seniors were experiencing due to the COVID-19 pandemic, and have helped them gain confidence in navigating the digital world by providing them with tangible technology skills and access to telehealth and remote services (Kabore et al., 2022; N. Male & A. Funk; N. Nepal).

Franklin County's project is a great example of how increased Internet and technology adoption can benefit the vulnerable populations in the community. Additionally, Franklin County's success provides insights into how local governments can build and utilize community partnerships to understand community needs, enhance program implementation, and attract further funding.

### Major Steps

#### Determining Needs: Close Collaboration Leads to Timely Feedback

The COVID-19 pandemic presented a unique set of challenges for seniors, particularly those with lower income or with an immigrant background. They are at a higher risk of



infection and serious illness, have limited mobility and economic means, and some face language and cultural barriers to accessing routine services. Many seniors rely on a small social circle, but as the pandemic forced daily activities to shift online, their lack of device and technical know-how to connect and engage over the Internet led to social isolation. They were left behind as they watched the world around them transition and adapt to remote work, online medical appointments and video calling.

Franklin County's Technology Access Project stands out because it was able to quickly identify the technology adoption issues its seniors were facing during the pandemic. This quick identification is enabled by the county's active communication and good working relationships with community partners such as CCH and CRIS. The collaborative relationship between the county and community partners was established through frequent interactions well before the pandemic and continued throughout. As a result, the county had a good knowledge of its community partners' clients, trusted their abilities and work, and respected the feedback they provided. The community partners, on the other hand, feel well-supported by the county and are willing to accurately report the conditions of their clients.

The close relationship between the county and its partners meant that policymakers have the most up-to-date information regarding the county's seniors. When the pandemic hit, the county learned quickly through CCH and CRIS' quarterly reports that seniors lacked the technical knowledge to engage with others virtually, and are "getting so isolated that they are declining very, very fast" mentally as well as physically (N. Male & A. Funk, personal communication, March 22, 2022). This detailed and timely knowledge of hardship with technology adoption quickly prompted the county to look for ways to address the seniors' social isolation before the situation worsened, and the Technology Access Project was born.

Overall, Franklin County's project shows the value in building community partnerships. Deep and relevant community knowledge from organizations like CCH and CRIS can help policymakers determine quickly and accurately where technology adoption is lacking, and design programs accordingly.

### **Implementation: Integration is Key**

Franklin County realized that to truly enhance technology and Internet adoption, it cannot possibly do all the work alone. It needed community partners that are deeply integrated and engaged in the community but at the same time understands technology.

Thus, the County took extra steps to ensure it was working with the right partners when implementing the project.

County officials first spoke to a nonprofit with a background in educating people on technology use, but the agency was unsure how to work with the seniors in the community. County officials then approached an organization with a community engagement background, but it did not have enough experience in technology education. Reflecting on how the county ended up extending its existing partnerships with CCH and CRIS, the grant administrator from the Office on Aging, Nancy Male, said, “We needed partners that understood not only working with seniors, but working with the tech. We needed partners that not only understood tech, but needed to understand how to mesh it for seniors.” (N. Male & A. Funk) While any community organization may be able to distribute computers to seniors, partnering with organizations that understand both components is what truly made Franklin County’s technology adoption efforts successful.

When it comes to carrying out the project, Franklin County’s partners amplified its effectiveness by integrating the devices and skills provided into their daily activities and service routines. Beyond providing the Chromebooks, training sessions and lectures on online fraud identification, CCH organized online book clubs through which seniors can apply the digital skills they learned to communicate with others. Additionally, CCH started an interactive online art program before which the staff would deliver art and craft supplies to individual seniors' homes, and the seniors would then use their new computers to participate in creative sessions with instructors. Similarly for CRIS, the project went beyond having case managers visiting door to door to teach seniors how to operate the computers. The computers and relevant skills seniors gained became a crucial medium through which CRIS’ regular citizenship and language class can continue. The computers also enabled CRIS to organize additional socialization calls and provided seniors with accurate information regarding the pandemic and the vaccine. Most programs still continue today: CCH still organizes virtue book clubs, and CRIS continues to use the computers to provide help to seniors seeking help scheduling online doctor appointments and other services. In fact, some seniors have returned the Chromebooks they initially received after they invested in their own computers, and the Chromebooks have been given to other seniors in need.

Overall, the community organizations were able to integrate the computers into everyday programs that provide the organizations a way to keep in touch with and provide information to seniors, and provide the seniors a way to reduce their social

isolation while practicing their digital skills -- ensuring and reinforcing technology adoption in Franklin County.

### **Funding: Partnership Helps Leverage Outside Resources**

Franklin County's success with expanding technology and Internet adoption among vulnerable seniors also provides insights into how innovative partnerships can help with program funding. CCH, partnering with Ohio State University, conducted a thorough evaluation of its program, which provided the knowledge base for a "best practice model" that will allow the program to scale in the most cost-effective and efficient manner. CCH discovered, for example, that not all seniors are equally able to digest new technology, and an assessment upfront may be needed to decide who will benefit the most from the program before admitting them. CCH has subsequently used the positive evaluation results and the best practice model to successfully pitch to and receive funding from private entities such as the Columbus Foundation and Spectrum as they see value in Franklin County's project, and they see that a successful partnership exists to provide stability to the program in the long-run.

The success of Franklin County's partnership in obtaining outside funding, however, does not mean that sustained public financial support is no longer needed whenever partnerships are established, especially given the temporary and one-time nature of COVID relief funding. Both CCH and CRIS spoke about how the one-time COVID funding created problems in program implementation. With regards to the CARES Act funding, which came as a lump sum that had to be spent within 6 months of reception, CCH Director, Dr. Tamar Forrest, said that it was as if "[t]he funding just stopped [during the program] and [the program] had a [financial] hole." She believes that the TAP program was only successful due to the second round of funding that CCH got from ARPA as the additional funding allowed them to evaluate their program (T. Forrest). Similarly, Narad Nepal from CRIS reflected that because the CARES funding had to be spent in 6 months, CRIS was unable to set aside any funds for future repairs. When the initial funding was used up, the mobile hotspot subscription had to stop, which hampered some seniors' ability to access the internet. While the first tranche of ARPA funding helped CCH finish the evaluation phase, it is still only a lump sum funding, and allocation of the second and last tranche of ARPA grants is entirely up to the county government (ARPA Local Relief Frequently Asked Questions, n.d.). In order for programs to be truly successful and sustainable and be beneficial to the community, local governments need to maintain fiscal support beyond COVID relief funding.

## Key Observations: Broadband Progress Through The Three “A” Framework Lens

- **Accessibility:** While accessibility is not the main focus of the project, the program did provide mobile internet hotspots to a limited number of seniors who lacked reliable internet access at home, thereby reducing barriers to online socialization and service access for seniors.
- **Affordability:** Addressing affordability issues was not an explicit goal of the project, but the funding made available by the county and other private partners allowed computers, internet hotspots and training to be provided free of charge to the seniors who participated in the program, thereby alleviating potential cost barriers.
- **Adoption:** The program enhanced technology and Internet adoption in several ways. First, community partners provided seniors with basic digital literacy training. Second, more advanced training was provided to seniors to enhance their ability to discern scams and phishing attempts, and to recognize untrue rumors related to COVID-19. Lastly, community partners were able to integrate technology into their daily programming -- book clubs, civics and English lessons, social visits... Such integration ensures that seniors are actively using the skills they learned, thereby enhancing their adoption of technology.

Overall, the pilot program significantly enhanced technology adoption among seniors. Central Community House’s survey of participants, done in collaboration with Ohio State University, shows the program enhanced their confidence in technology, increased their computer usage, and made measurable improvements to their digital skills -- for example, seniors had an 83% increase in their skill level in sending and receiving messages via Zoom, and a 71% increase in their ability to find information about hobbies and local community resources on the Internet (Kabore et al., 2022).

Anecdotally, Narad Nepal from CRIS observed that giving a computer was providing seniors with more than just a piece of technology. The program “gave [seniors] the zeal that created interest in time to learn how to use it.” Dr. Tamar Forrest from CCH reports that “the stories and the energy when [seniors] talk about the program is really fun... they're so proud of it when they get their Chromebook, and they feel more connected to the younger folks in their families.” The pilot program is a clear success in enhancing digital equity as not

only are seniors provided with affordable access to the internet, they are also trained in how to take advantage of all the benefits the internet provides and become true participants in a society that's increasingly dependent on the digital realm.

## Sources

- ARPA Local Relief Frequently Asked Questions*. (n.d.). National League of Cities. Retrieved May 6, 2022, from <https://www.nlc.org/covid-19-pandemic-response/american-rescue-plan-act/arpa-local-relief-frequently-asked-questions/>
- Forrest, T. (2022, March 24). *Interview with Central Community House*. (Franklin County, Ohio)
- Kabore, T., Lucas, A., Natarajan, G., & Forrest, T. (2022, March 24). *The Technology Access Project (TAP): Decreasing Social Isolation for Seniors during the COVID-19 Pandemic and Beyond*.
- Male, N., & Funk, A. (2022, March 22). *Interview with Franklin County Office on Aging*. (Franklin County, Ohio)
- Nepal, N. (2022, March 23). *Interview with Community Refugee and Immigration Services*. (Franklin County, Ohio)

## 3: DUTCHESS COUNTY, NY

**By: Muhammad Kamaruzuki**

As a response to the impact of the pandemic on increasing gaps in broadband equity, Dutchess County has deployed strategies using ARPA funds. These strategies include a county-wide survey to determine broadband needs in the county, expanding the use of community grants to purchase digital devices, and exploring alternative technologies that can provide reliable Internet. These strategies are also outlined in the county's rescue plan known as Dutchess Invest.

### **Broadband Accessibility Survey and Study**

Under the American Rescue Plan Act, the county is planning to spend \$1 million in broadband infrastructure development. Of this amount, \$350,000 has been allocated for a Broadband Access Survey and Gap Analysis, while the remaining \$650,000 will be used to address the critical broadband needs, as identified in the gap analysis. The survey and gap analysis aim to deploy strategies to address broadband challenges among residents and businesses in the county in terms of accessibility and the quality of services.

The survey collects information from families and businesses with regards to their experience accessing broadband services. In this survey, respondents are asked the following questions: home/business address, subscription cost, download and upload speed test result, and service providers.

There are many critiques regarding the reliability of FCC data and its coverage map (Johnson and Godfrey, n.d; Tibken, 2021; Brodtkin, 2020). Data reported in FCC reports may not accurately reflect users' experiences, as FCC collects data from service providers who self-report their own services. Data gaps from the FCC Form 477 data with regards to the services speed, reliability, and broadband coverage may be addressed with this kind of survey.

Concern over FCC data reliability was also shared during an interview with the coordinating officer of the broadband survey in Dutchess County. The FCC data was said to be underestimating the number of households that are not connected and it does not reflect users' experience. The officer from the Emergency Department of Dutchess County, Dana Smith said: "We looked at the FCC standard for identifying coverage and we feel that it is inadequate and inappropriate. If one resident in a census block has

access to high-speed Internet that means everyone [has the access, according to the FCC maps].”

Lack of information and data sharing among governments is also a reason for Dutchess County to do the survey. The state government of New York has an ongoing survey called New York State Broadband Assessment that examines broadband gaps as an initiative to address broadband issues in the state. However, the county government could not access the data. Quoting Dana Smith: “The State of New York had a tremendous amount of data that they were not willing or able to share with us”.

Having information on broadband services at a more granular level based on user’s experience would help the local government design actions to address the real broadband need. It is important to have a comprehensive understanding of the state of broadband services at local level. The Dutchess survey will help build understanding of local needs and assist the government to formulate appropriate broadband initiatives. For example, expanding core broadband infrastructure may not address the issue of affordability at reliable download and upload speeds.

## **Expanding the use of community grants**

In addition to the survey, the county is expanding the use of one of its community grants called the ‘Learn, Play, Create’ (LPC) grant. The County Department of Planning and Development decided to permit use of the grant for purchasing computers and e-books and for libraries to purchase materials/supplies for IT programs such as computer coding (Dutchess County Government, 2021). “Funding will be available in grant awards up to \$20,000 per arts or sports organization for specific purchases or needs, including equipment, supplies or other one-time expenses to help enhance program offerings, as well as make the program more accessible for families. Libraries will be eligible for purchases or needs up to \$50,000” (Dutchess County Government, 2021). The county has allocated \$3 million dollars of ARPA funding to fund LPC grants but there is no specific dollar threshold to purchase computers and IT materials/supplies via the grants.

This expansion will also help libraries install devices that will extend their wireless service outside the complexes. “22 of the 25 libraries responded that they don't have Internet access outside their building. So, if we can provide a small grant, they could create a local area wireless network around a building, [as] a lot of libraries have park-like settings around them”(Smith, 2022). This will help underserved residents, who could not afford high speed broadband subscription, access the internet.

To outline a strategic plan to address the affordability challenge, the county is working with communities especially in areas with high poverty rates, such as in Beacon and Poughkeepsie. The local government will be focusing on finding funds to support community inputs. “Our effort and our strategic plan will include their efforts, and being a county government, we may find opportunities of funding that could support their efforts,” said Dana Smith. These collaborative arrangements help inform and position the county to apply for other broadband funding opportunities(Pine Plains Broadband Committee, 2021).

## **Planning for alternative technologies**

In many communities cable companies offer broadband services. These private companies have an exclusive right of operation through cable franchise agreements. Concerns have been raised that the Internet service is becoming cost-prohibitive and is of low quality. These companies were reluctant to expand coverage and improve quality despite having the exclusive rights of providing the service, so the New York State in 2015 required them to build out to meet their obligations (New York State Executive Chamber, 2015; Brodtkin, 2018) .

Local government is exploring various emerging technologies to make the Internet more widely available. One of the ARFA-funded efforts in Dutchess County is consolidating a two-tier radio system in the telecommunication infrastructure . This will enable the use of emerging technologies such as 5G and 6G networks of mobile broadband to touch down to provide faster Internet (Smith, 2022). The county is also studying the feasibility of satellite technology especially in rural areas, despite concerns with latency and speed. “In general, there will be multiple solutions, whether it be satellite, fiber, microwave to improve connectivity. And there will be private and public (local, county, state and federal) initiatives that will support all these different solutions”(Smith, 2022).

Outside ARPA-funded initiatives, the county also provides the Affordable Connectivity Program (ACP) that is currently managed by the Department of Community and Services. ACP is a Federal Communications Commission (FCC) program that gives monthly discounts on broadband subscriptions and discounts on one-time purchases of computers/tablets to low-income families and individuals.

## **Key Observations**

- 1) Identifying broadband needs helps to formulate appropriate measures to close



gaps and inequality in accessing broadband services. The broadband survey will identify accessibility and affordability issues such as coverage and reliability of services at neighborhood level.

- 2) Broadband expansion and physical infrastructure deployment are crucial but not enough to address equity issues. Bigger challenges around affordability and adoption gaps need attention and solutions. Dutchess is highly wired but there are critical concerns on affordability, lack of devices, IT skills among households and senior citizens.
- 3) Collaboration among government agencies and with communities in defining broadband gaps will help design effective ways for ARPA funds to deliver successful broadband initiatives. The decision to extend LPC grants to purchase computing devices was welcomed by the public libraries that have been struggling to provide resources like hotspots and computers during the pandemic. The rising population of senior citizens justifies why the planning department must work with relevant agencies to improve their skills in adopting broadband.

## Sources

- Brodtkin, Jon. 2018. "NY Orders Charter out of State, Says It Must Sell Time Warner Cable System." *Ars Technica*. July 27, 2018.  
<https://arstechnica.com/tech-policy/2018/07/new-york-revokes-approval-of-charter-time-warner-cable-merger/>.
2020. "FCC Data Fails to Count 21 Million People without Broadband, Study Finds." *Ars Technica*. June 2, 2020.  
<https://arstechnica.com/tech-policy/2020/02/fcc-data-fails-to-count-21-million-people-without-broadband-study-finds/>.
- Dana Smith. 2022. Dutchess ARPA-funded Broadband Initiatives.
- Dutchess County Government. 2021. "Learn, Play, Create: Supporting Our Kids' Grant." Dutchess County Government. June 9, 2021.  
<https://www.dutchessny.gov/Departments/County-Executive/Learn-Play-Create-Supporting-Our-Kids-Grant.htm>.
- Lynne M. Johnson, and David E. Godfrey. n.d. "Niagara-Orleans Regional Alliance - Rural Broadband Initiative."  
[https://www.ntia.doc.gov/files/ntia/publications/ntia\\_comments\\_from\\_nora.pdf](https://www.ntia.doc.gov/files/ntia/publications/ntia_comments_from_nora.pdf).
- New York State Executive Chamber. 2015. "GOVERNOR CUOMO LAUNCHES #BROADBAND4ALL CAMPAIGN RALLYING SUPPORT FOR NEW NY BROADBAND PROGRAM." New York State.  
[https://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/Web/9280D7BBEE121C7885257E0C006B3220/\\$File/gov%203.18.15.pdf?OpenElement](https://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/Web/9280D7BBEE121C7885257E0C006B3220/$File/gov%203.18.15.pdf?OpenElement).
- Pine Plains Broadband Committee. 2021. "Report of the PINE PLAINS BROADBAND COMMITTEE to The TOWN BOARD of PINE PLAINS, NEW YORK."  
<https://www.pineplains-ny.gov/wp-content/uploads/2021/03/Broadband-Committee-Final-Report-2021.pdf>.
- Shara Tibken. 2021. "Millions of Americans Can't Get Broadband Because of the FCC's Faulty Map. There's a Fix." *CNET*. February 19, 2021.  
<https://www.cnet.com/home/internet/features/millions-of-americans-cant-get-broadband-beca>

use-of-a-faulty-fcc-map-theres-a-fix/.

## 4: SOUTHERN TIER REGION, NY

By: Austin Ford

**Southern Tier Population:** 608,517 (2020)

**Southern Tier Poverty Rate:** Rate ranging from 9.3% to 24.9% depending on county

**Project Funding from ARPA and NTIA Grant:** \$20 million



The Southern Tier of New York is a region made of eight counties and includes more than six hundred thousand residents. It has historically been a center for industry within New York State, however many industries and businesses have left the area since the deindustrialization. These events have contributed to higher-than-average poverty rates, lack of private sector investment and limited tax bases for local governments, resulting in substandard broadband infrastructure in certain parts of the Southern Tier.

In the previous decade, many local governments and community groups have been working to alleviate the issues surrounding broadband access and affordability, with varying levels of success. However, the passage of ARPA combined with grants and administrative support from organizations such as the National Telecommunications and Infrastructure and Appalachian Regional Commission, along with coordination from joint planning groups such the Southern Tier Regional Development Board, has allowed broadband expansion.

## Major Steps

### Determining Needs: Studies, Prioritizations and Prices

[Southern Tier Network](#), the non-profit overseeing the implementation of broadband expansion, has used both open source data and commissioned studies to ascertain which areas are most in need of broadband infrastructure, the nature of these needs and shortcomings. To determine which areas to prioritize, STN considers the extent of current broadband infrastructure, the density of the location in question, and the availability of other sources of internet.

The pricing structure for broadband services also was analyzed to ensure a balance between acquiring enough revenue to maintain the infrastructure and providing internet at a price residents can afford. The federal government has provided funding that low-income residents can apply directly to offset the cost of broadband, and STN aims for a price range within \$45 to \$70 per month for customers.

### Implementation: Opportunities and Challenges

The Southern Tier governments had been consolidating plans to create region-wide broadband infrastructure for years prior to the passage of ARPA. However, private firms who feared competition from publicly-backed non-profits frequently engaged in lawsuits or administrative challenges when governments would attempt to use funds to build publicly-owned broadband or [enact regulation](#) and guidance on private operators. [Comcast](#), for instance, has contested how governments fund their broadband projects, as well as initiating lawsuits against county governments claiming improper subsidies. ARPA's flexibility with grant funding may allow local governments to avoid bureaucratic pitfalls such as complicated strings attached or which could potentially invite lawsuits focused on subsidy limitations.

### Funding: Sources Meeting Flexibility

While there was already a comprehensive broadband infrastructure plan, this plan was limited in implementation due to a lack of funds. Some federal grants could provide partial funding, but these often required matching funds from counties, which they were

unable to provide. The funds from ARPA allowed the existing grants to be used.

The increased funds from ARPA allowed counties to reallocate funds in order to meet the matching funds requirements from other agencies such as the Appalachian Regional Commission. While it wasn't always ARPA money being put forth itself as the match, it was often governments within the region using ARPA funds to cover other areas in their budgets and using the surplus as the matching funds for broadband (Manning).

The flexibility of funds provided by ARPA allowed the region to apply for the matching funds without having to worry about funding use and disbursement challenges from private broadband companies which had been working in the area.

## Key Observations: Broadband Progress Through The Three “A” Framework Lens

- **Accessibility:** Before the physical infrastructure is built, Southern Tier Network ensured it had sufficient data in order to prioritize the areas which faced the most urgent need for broadband expansion.
- **Affordability:** The combination of federal assistance for low-income residents and a focus on balancing solvency with affordability allows the Southern Tier's broadband expansion to remain affordable.
- **Adoption:** With the exception of competing firms, all players from local governments to regional organizations to community and infrastructure non-profits were united in the goal to fund and expand broadband infrastructure.

### Sources

*Appendix figure 1. population of New York ... - fiscal policy.* (n.d.). Retrieved April 1, 2022, from <https://fiscalspolicy.org/wp-content/uploads/2006/09/Appendix-chart1.pdf>

Broadband Infrastructure Improvement Planning - Regional Program for the Southern Tier of New York. (n.d.). Retrieved April 1, 2022, from <https://southerntier8.org/economic-development-programs/broadband-infrastructure-improvement-planning>

Brodkin, J. (2021, April 30). *New York requires \$15 broadband for poor people, promptly gets sued by isps.* Ars Technica. Retrieved May 7, 2022, from <https://arstechnica.com/techpolicy/2021/04/isps-sue-new-york-to-block-law-requiring-15-broadband-for-poor-people/>

*Comcast sues EPB in Hamilton County on eve of bond issue.* Chattanooga.com. (2008,

- April 22). Retrieved May 7, 2022, from <https://www.chattanooga.com/2008/4/22/126367/Comcast-Sues-EPB-In-Hamilton-County.aspx>
- Ford, A., & Manning, S. (2022, April 7). Interview with Southern Tier Network. *Zoom Interview*. other. Retrieved May 7, 2022.
- Ford, A., Robertson, C., & Costello, M. (2022, March 23). Interview with Southern Tier Regional Development Board. *Email Interview*. other. Retrieved May 7, 2022.
- Popper, B. (2015, May 1). *Comcast sued a city trying to build high-speed internet - then offered its own version*. The Verge. Retrieved May 7, 2022, from <https://www.theverge.com/2015/5/1/8530403/chattanooga-comcast-fcc-high-speed-internet-gigabit>
- Robertson, C., & Costello, M. (2022, March 23). Southern Tier Regional Development Board Interview. personal.
- Southern Tier 8 applies for federal funding to expand ...* (n.d.). Retrieved April 1, 2022, from <https://www.wicz.com/story/45116848/southern-tier-8-applies-for-federal-funding-to-expand-broadband-in-rural-areas>
- Southern Tier 8's broadband plan to drive economic growth, improve quality of life in New York State*. Home. (n.d.). Retrieved April 1, 2022, from <https://www.bbcmag.com/community-broadband/southern-tier-8s-broadband-plan-to-drive-economic-growth-improve-quality-of-life-in-new-york-state>