

ACHIEVEMENT AWARDS



SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2025.** Please include this submission form as the first page of your electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

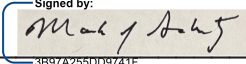
PROGRAM INFORMATION

County: Arlington County
Program Title: Broadband Study
Program Category: Community Development

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Executive Summary

Arlington County conducted an [assessment](#) to select appropriate solutions to address the County's digital divide and ensure adequate and affordable broadband access across the County. Led by an interdepartmental staff team, the two-year study included a needs assessment that addressed the current state of the broadband market, digital inclusion programming, and assessed the federal, state, and local tactics and tools currently available and their ability to eliminate any gaps; a comparative model evaluation that analyzed multiple infrastructure and subsidy models; and strategic recommendations supported by case study analysis.

The Study documents a state of broadband and digital inclusion in Arlington comprehensively presented for the first time. Pairing the new property-level FCC data with local property data and customer perception paints a clearer picture of gaps in infrastructure, service, and affordability which has improved Arlington's ability to make informed decisions grounded in data.

The study's method and milestones offer a model for other jurisdictions to integrate large amounts of data into useful information that inform their own digital equity goals. Although there is no standard or national guidance, this study also attempts to better understand and quantify Internet affordability. The innovative methodology and analysis serve as a model for other jurisdictions in Virginia and nationwide to gain a better understanding of its broadband and digital equity need, how best to implement solutions to address the gaps, and how to transition from assessment into action.

The Study has served as an important educational tool for the County to inform policy and set foundational direction for a digital equity program, including taking several concrete actions since the Study concluded: allocating staff and funding resources, organizing a diverse coalition of stakeholders, publishing a resource repository, announcing a grant opportunity to expand programming around two core areas of need, organizing digital skills trainings, and expanding affordable Internet options.

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Problem/Challenge Being Addressed

Arlington County's digital inclusion efforts began in 2017 with a three-year pilot program that provided free wireless Internet to low-income households. The County provided funds and access to ConnectArlington dark fiber assets to support the initiative. Since that program in 2017, Arlington has consistently strived to advance digital equity for all residents through several small-scale pilots. In the following years, the County convened a Broadband Advisory Committee, a Digital Equity staff working group, and an external-facing Digital Inclusion Network, each of which evaluated different solutions to improve Internet connectivity and access.

The COVID-19 pandemic paused the strategic planning work to focus on addressing the sudden pressing need to conduct most activities remotely. The County implemented several pilots to provide free connectivity in low-income communities and outdoor hotspots at dozens of community facilities, funded Internet subsidies through affordable housing and schools, offered digital technical assistance for small businesses, and offered training and assistance to residents provided by schools and nonprofit partners supported by County grants. Many of these activities continue post-pandemic.

While the COVID-19 pandemic underscored the importance of affordable, reliable, high-speed Internet connectivity, gaps in data left questions about whether Arlington County had an infrastructure issue and to what extent, or whether the gaps were strictly related to household challenges like Internet affordability, knowledge in how to use it, and having the appropriate device to access it. These knowledge gaps and the dozens of options to pursue without a full understanding of their feasibility inhibited policy-making and strategic focus.

Prior to 2022, the Federal Communications Commission did require Internet providers to report coverage data, but the information was shared at the census block level which prevented a complete assessment of coverage and comparisons by property characteristics, particularly important in Arlington

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given the varied building typology and characteristics across the County. Furthermore, reporting methods raised concerns of overstated broadband coverage. If an Internet provider served one location in a census block, they could report serving the entire census block. While the available data indicated near-perfect broadband coverage in the County, anecdotally, spotty service was present, but the reason (e.g., infrastructure, router/modem, digital literacy) and scale of the issue was unknown.

Broadband pricing and affordability have been notoriously difficult to study due to a lack of comprehensive data, assorted fees, and varying price-speed tiered structures. Unlike other industries, like housing, no accepted national standard establishes affordable broadband, a challenge when attempting to define the need and associated strategies to support it.

With an objective to further expand broadband accessibility, in 2022, Arlington County pursued a study to assess available infrastructure and digital resources, the nature and extent of Internet service challenges and gaps, and strategic programming or policies the County could deploy towards strengthening or adding tools to ensure quality, affordable broadband Internet, and digital equity across Arlington.

Award Criteria

(Innovation, Collaboration, Customization, and a Model for Other Localities)

Arlington County's Broadband Study meets each of the award criteria. Foremost is its *innovative analysis*. The County's approach to identify affordability gaps involved analyzing data from various sources, such as the American Community Survey, new property-level FCC data, and the County's own survey and interviews, to measure Internet access, Internet subscription and computer ownership rates, and the community's perception of Internet service quality and price. Notably, the analysis included a granular assessment of property-level infrastructure data compared to key property characteristics, the application of a speed benchmark that contemplates higher than the national definition of underserved,

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and assessment of household cost-burden by Internet service without any national benchmark standard.

The County also evaluated a local financial subsidy model that would provide Internet vouchers to cost-burdened households, considering different scenarios with and without federal subsidies and bandwidth options. Many jurisdictions have not assessed Internet affordability past promoting federal subsidy programs, such as the Affordable Connectivity Program, which was discontinued earlier in 2024.

The higher-level evaluation of Internet service models was a **customized approach** to inform next steps for the County. While researching other broadband studies nationwide, many were designed as a deep dive feasibility study for a specific model, such as a municipal broadband network; however, the County desired to study several options. To save resources from multiple feasibility studies, the County designed the model evaluation to develop higher-level order of magnitude costs and flag challenges and considerations recognizing that further research could be considered or recommended if the Study analysis warrants it.

The Study process embodied the **spirit of collaboration**. Broadband and Digital Equity activities are often implemented by technology departments and can overlook the range of perspectives impacted by digital inequities, particularly the human element. In 2021, Arlington County established an interdepartmental Digital Equity Group to set foundational direction advised by three department directors: Community Planning, Housing, and Development, Technology Services, and Arlington Public Libraries intended to bring a holistic approach to the effort. This group served as strategic advisors to the Study. While the Study was guided by this group, dozens of staff in other departments as well as Arlington County Public School representatives offered feedback and participated throughout the process.

The Study's innovative approach and comprehensive findings serve as a **model for other jurisdictions**, especially considering unprecedented federal investments in broadband and digital equity where focused and targeted direction will be vital to securing funding. Arlington is at the forefront of local

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broadband planning, particularly given the nuanced research needed to fully understand gaps related to provider competition and Internet affordability. Arlington's use of data and its evaluation methodology serves as a template for other jurisdictions to utilize their own assessment and understanding of broadband and digital equity needs and development of appropriate implementation strategies. Other communities in Virginia have already engaged with Arlington to learn about the Broadband Study process.

How the Program was Carried Out (Including Financing and Staffing)

Staff implemented the Broadband Study over three distinct phases – a needs assessment, technical analysis of Internet models, and strategic recommendations. Each phase concluded with a report and natural checkpoint to share progress and key findings, allowing for continuous communication with stakeholders and an opportunity to incorporate feedback in future work.

Needs Assessment

The first phase assessed the current state of the broadband market, digital inclusion programming, and federal, state, and local tactics and tools currently available and their ability to eliminate any gaps. The study team conducted a robust and thorough review of available data coupled with perspectives from stakeholders and industry practitioners. The assessment relied on the American Community Survey for computer ownership and Internet subscription by age, income, race, and education level.

In 2022, the Federal Communications Commission (FCC) began requiring Internet providers to report property-level service data, including property type and available speeds. Arlington County executed a license agreement with the FCC's contractor to receive the raw data and publish summary statistics in the report. Once received, the FCC data was analyzed, assessing competition and level of service with two speed benchmarks. The County used both the definition accepted by the federal government as

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served (100/20) and the benchmark for new construction projects under the NTIA grant program (100/100). The analysis also compared the FCC data to local property data to research trends related to property characteristics, including type (e.g., multifamily, garden-style, single-family), age of building stock, and affordable housing vs. market-rate.

A survey and stakeholder interviews complimented the data analysis, particularly related to service quality and price, digital literacy, and other topics difficult to glean from data alone. The team received nearly 900 survey responses from residents and businesses and held discussions with approximately 70 stakeholders from a range of perspectives, including government agencies, building landlords and developers, business organizations, Arlington Public Schools, safety net organizations, other nonprofit organizations, and community advocates. All primary Internet providers were interviewed and relevant information regarding their respective broadband networks and service offerings were collected and analyzed.

Model Evaluation Framework

As part of phase two, the study team evaluated infrastructure-based and subsidy-based Internet delivery models under discussion, ranking them for their ability to address the need. The following models evaluated are four of many possible variations and were chosen to help compare high-level organization options:

- *Wireless Service Authority (WSA)*: Arlington creates a separate organization with full access to ConnectArlington infrastructure, a fiber-optic, high-speed, dedicated network that links county and school buildings, providing a robust digital services infrastructure. The Authority delivers service and operates the network.
- *Third Party Operator (TPO)*: Arlington owns and funds the construction of a network that expands ConnectArlington and delivers dark fiber to underserved locations. Internet providers

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use an updated ConnectArlington license agreement with fee schedule to light the dark fiber with their own electronics to provide service.

- *Internet Service Provider (ISP)*: A third party expands service into the underserved areas under an agreement with the County.
- *Financial Subsidies for Internet Service*: Evaluates a local financial subsidy that considers federal benefits and bandwidth options.

The evaluation assessed the order of magnitude costs, risks and challenges, and benefits of each model.

The first phase of the Study identified gaps related to provider competition, Internet service affordability, and, to a lesser extent, infrastructure quality. The scale of the analysis was based upon these gaps, using the following criteria:

- **Lack of Infrastructure Quality**: locations that do not have 100/100 broadband access (this includes assumptions of planned provider upgrades shared with the team).
- **Lack of Affordability**: households that are cost burdened— defined as households that spend more than 1.5% of their income towards Internet service/equipment (i.e., router, modem).
- **Lack of Choice/Competition**: locations that have only one Internet service provider at 100/100 or better.

Recommendations and Case Study

Based off the previous two phases of the Study, recommendations were refined and organized into three main strategic themes and the reporting shares budgetary considerations, including some rough order of magnitude costs based upon the current market and best practices. While they are not program estimates, the considerations could be helpful in budgeting for implementing these recommendations as Arlington further fleshes out the concepts proposed.

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This phase also highlighted three case studies that provide successful examples of efforts other jurisdictions have made to improve access to broadband in their communities, along with how each could be applicable to Arlington County. A summary of the cases chosen is provided in the attachment.

Staffing

A small interdepartmental core team comprised of one project manager and four staff led the study from start to finish. The core team were the architects of the Study, playing a crucial role guiding the assessment, identifying models and evaluation methods, organizing community outreach, and extensive collaboration on the deliverables and recommendations of the Study. The team represented perspectives from the Department of Technology Services, Community Planning, Housing, and Development, Arlington Public Libraries, and the Real Estate Bureau. The core team also managed and guided a consultant team who brought needed technical expertise related to broadband development, service, and policy.

The core team also coordinated additional input from dozens of County staff from multiple related departments, including Arlington Economic Development, Arlington Employment Center, Department of Human Services, Arlington's Employment Center, Department of Parks and Recreation, Arlington Public Libraries, Department of Technology Services, the Planning and Housing Divisions, Arlington Public Schools, and the County Attorney's Office.

Financing/Resources

Arlington County leveraged American Rescue Plan Act resources to fund the ~\$315,000 consultant fees for this multi-phase study. Other than staff time and the use of existing communications platforms, no local resources were used for this project.

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Project Results

In January 2025, the National Digital Inclusion Alliance named Arlington County a [2024 Visionary Digital Inclusion Trailblazer](#), an [award](#) that recognizes communities for the breadth and innovation in their digital inclusion work, including data-informed research and strategy provided by the 2024 Broadband Study. Each of the three reports produced provide detailed data and context that have assisted in further defining and refining the strategies to achieve the goal of ensuring that every person in Arlington County has the digital capacity to fully participate in society.

1. The [Resource Evaluation and Needs Assessment](#): addressed the current state of the broadband market, digital inclusion resources, and assessed the federal, state, and local tactics and tools currently available to eliminate any gaps. The information was comprehensively documented for the first time, breaking down complex technology topics to be more digestible to non-practitioners.

The analysis of property-level infrastructure data allowed for more granular assessment that had previously been generalized by census-block data and the American Community Survey.

Given the previous gap in data, past conversations were based around anecdotal information that did not necessarily represent the broad spectrum of needs or desires across the entire County. Survey data and interview conversations provided additional context difficult to glean from data alone - information related to the community's perception of Internet service quality, price, affordability, and digital understanding.

2. The [Comparative Internet Service Model Evaluation](#): analyzed multiple infrastructure and cost subsidy models for their ability to improve broadband Internet service access for underserved areas and cost-burdened households within Arlington County. The County benefited from learning the intricate details of the calculations required to design, execute, construct, and maintain each of the different models. This higher-level approach allowed the County to assess

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four different models, compare them side-by-side, and subsequently hone the focus of interventions/programs and determine which, if any, warrants future, more in-depth research for feasibility. Without this information, the County could have pursued a costly and complex direction that did not adequately address the issues identified in the needs assessment. Defining Internet affordability has helped quantify the scale and focus of any subsidy program. Former federal Internet subsidy programs did not fully address cost barrier gaps in Arlington County, given the high cost of living in the Northern Virginia region. Based upon national research and our Study, households begin to be “Internet cost-burdened” at approximately 50% of the area median income in Northern Virginia. The programs generally only supported households who earn approximately 30% of the area median income and below, leaving a gap, even with the American Connectivity Program (ACP) fully leveraged. Now that ACP is discontinued, the exercise is particularly useful to quantifying a local subsidy to address the community’s gap that contemplated multiple scenarios with and without federal subsidies.

3. The [Strategic Recommendations](#): detailed recommendations designed to address current and future broadband and digital needs in Arlington County supported by case study analysis. The recommendations were grounded in data-driven analysis and will help hone Arlington’s focus through targeted digital inclusion programs, collaboration with Internet Service Providers (ISPs) to expand and upgrade their service, and more intentional governance. The Study provides a strong basis for discussion among County leaders and has led to dialogue and decisions about the County’s objectives related to digital equity and priority of the work compared to other policy priorities.

As a follow-on to the Study, Arlington County formally launched the [Digital Equity Initiative](#) in October 2024, including assigning a staff member to solely focus their efforts on digital equity activities and

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[allocating \\$2.8 million in local resources](#) to support the Initiative's work over several years. The Initiative will be used to provide strategic planning and guidance related to these resources, expand partnership opportunities, manage grant opportunities, and advocate for policies that support digital equity.

The Initiative has since worked to advance several recommendations from the Broadband Study, including:

- Organized a [Digital Equity Coalition](#) to serve as a hub for coordination, collaboration, information sharing, and tangible outcomes related to digital inclusion in the County. Nearly 30 organizations are represented in the Coalition ranging from community-based organizations, County and Schools staff to Internet Providers and industry practitioners. Meeting summaries can be found [here](#) and [here](#).
- Developed a [Resource Inventory](#) with local, regional, and national digital inclusion resources. Resource topics include devices, Internet connectivity and affordability, digital skills training, digital navigation and train-the-trainer resources, organizational support, and more.
- Worked with Comcast to [expand their Internet Essentials Program](#) to more households. As of December 2024, eligible households now include Arlington residents who live in committed affordable apartments and/or hold a housing grant or voucher from the County's Department of Human Services.
- Established a [grant program](#) for digital inclusion activities. Grants will be a cornerstone of the Digital Equity Initiative to promote community-driven solutions through partners who can effectively deliver on the ground support to Arlington residents and businesses. This grant cycle offers up to \$500,000 for digital skill-building and digital navigation which were identified as high areas of need in the Broadband Study.

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- Organized [digital skills trainings](#) for residents in partnership with a national nonprofit Connected Nation.
- Organized a train-the-trainer workshop for community-based partners to learn best practice approaches for teaching a basic digital skills curriculum.