



Connect Illinois

Broadband Strategic Plan

February 2020

Office of Broadband
Department of Commerce
and Economic Opportunity
Governor J.B. Pritzker

Executive Summary

As part of his historic \$45 billion Rebuild Illinois investment strategy, Governor J.B. Pritzker included \$420 million to expand access to high-speed broadband internet across the state. A critical commitment to closing gaps and expanding opportunity, the Connect Illinois program is central to the Governor's Five-Year Economic Plan to revitalize and grow the Illinois economy with an emphasis on equitable growth.

As the largest state broadband competitive matching grant program ever, Connect Illinois seeks to achieve what no other state or federal approach has accomplished: ubiquitous broadband access. In order to help Illinoisans both access and use broadband, Connect Illinois will promote digital literacy, adoption, and inclusion while leveraging fully scalable broadband infrastructure to drive economic development and increase quality of life.

The Connect Illinois broadband strategy is anchored by distinct, yet interdependent goals providing short-term *basic access*, ensuring longer-term *high-speed access*, and demonstrating *broadband leadership* and *economic development* relative to other states and countries.

Basic broadband access. The short-term universal access goal provides that Illinois homes, businesses, and community anchor institutions around the state can access broadband at basic service levels:

By 2024, Illinois homes, businesses, and community anchor institutions throughout the state will have access to basic service of at least 25/3 Mbps.

High-speed broadband access. The longer-term universal access goal ensures that Illinois homes, businesses, and community anchor institutions have access to at least one provider with high-speed service levels necessary for advanced applications, heavy bandwidth use, or future need:

By 2028, Illinois homes, businesses, and community anchor institutions throughout the state will have access to at least one provider offering 100/20 Mbps service.

Broadband leadership. Just as bandwidth needs change, so does the definition of "broadband." Connect Illinois seeks to lead relative to its peers on the broadband of today – and tomorrow:

By 2028, Illinois will place in the top three nationally, and top 12 globally, for broadband access.

Economic development. Illinois is not investing in high-speed internet for its own sake. Broadband can support innovation in areas from advanced manufacturing to precision agriculture:

Illinois will be a leader in broadband applications for agriculture, economic development, education, and telehealth while leveraging broadband infrastructure investments to support equitable growth.

At its core, the push toward broadband ubiquity is one of broadband equity – targeting resources to close gaps and expand opportunity for unserved and underserved communities throughout Illinois. Understandably, private investment has doubled down on relatively profitable service territories – growing the broadband access gap as a result. Connect Illinois will address this market failure and recalibrate the business case for new deployment, aligning public and private investment to connect communities and individual consumers with fully scalable service.

Connect Illinois Vision

The Connect Illinois broadband investment represents an integral and strategic component of the comprehensive 2019 Rebuild Illinois infrastructure program and the Governor's Five-Year Economic Plan. With \$400 million appropriated for competitive broadband grants, Connect Illinois is the largest state broadband matching grant program ever, providing the magnitude of funding needed for state-driven broadband ubiquity and innovation – and lasting broadband equity.

In addition to \$400 million in competitive grants, the Connect Illinois program includes \$20 million for upgrades to the 100 GB Illinois Century Network, the state's existing 2,000-mile open access institutional fiber network, which serves over 3,400 K-12, higher education, and library locations across the state. Importantly, this funding will provide a secure K-12 Broadband Network available at no cost to all Illinois K-12 public schools.

Connect Illinois seeks to achieve what no other state or federal approach to date has accomplished: ubiquitous broadband access – to homes, businesses, and community anchor institutions. At the same time, Connect Illinois will promote digital literacy, adoption, and inclusion while leveraging investment in new broadband infrastructure to spur advances in such areas as economic development, education, precision agriculture, and telehealth.

Universal access. Poor broadband represents an infrastructure gap with serious socioeconomic consequences. Despite significant investment from the private sector and federal government, large swaths of Illinois lack access to basic broadband service – defined by the Federal Communications Commission (FCC) as service of at least 25 Mbps download and 3 Mbps upload (25/3 Mbps). At the same time, pockets of urban areas, developments just outside city lines, and entire rural communities alike fall below this threshold, posing a challenge to equitable investment that must be surmounted if opportunity is to be widespread.

Digital literacy, adoption, and inclusion. If broadband infrastructure and service represent one side of the connectivity coin, the flip side is broadband utilization – including digital literacy, adoption, and inclusion. While the relatively simple and well-documented barriers to the former often include population sparsity, geography, and lack of economic return on investment, barriers to utilization are more complex. Adoption and literacy rates are of particular concern in black and brown communities and rural regions across the state. For a state, local community, or individual family to compete in the 21st century digital economy, these barriers must be overcome. Thus, Connect Illinois will leverage complementary efforts to ensure that Illinoisans have both the requisite broadband service and necessary broadband skills.

Support economic development goals. Strategic broadband deployment will maximize connections – to homes, businesses, and community anchor institutions alike – while promoting opportunities in broadband-driven applications, such as those in economic development, education, precision agriculture, and telehealth. Connect Illinois will enable and showcase cutting-edge broadband innovations across various sectors of the state's economy, including those highlighted in the Governor's Five-Year Economic Plan: agriculture; energy; health care; information technology; manufacturing; and transportation. These broadband infrastructure investments will support Governor Pritzker's strategy to revitalize the Illinois economy and catalyze equitable growth.

Building on Past Investment

Connect Illinois follows previous state-led investment and collaboration that made meaningful progress toward broadband expansion. Projects commissioned through the American Recovery and Reinvestment Act of 2009 (ARRA) and during the administration of former Governor Pat Quinn have stood the test of time and continue to offer strong examples of sound investment that balanced short-term need and longer-term vision while promoting innovative approaches to collaboration, funding, and deployment.

The ARRA era. In 2010, Illinois projects leveraged approximately \$200 million in federal funding, most notably from the Department of Commerce National Telecommunications and Information Administration. The focus of these projects included broadband infrastructure; data and development; public computing centers; and sustainable adoption.

The projects included investment in regional middle-mile, institutional, and open-access networks that led to new connections for numerous community anchor institutions – schools, libraries, and other public buildings – and from multiple broadband providers offering last-mile service to homes and businesses. Collaboration over shared middle-mile infrastructure allowed broadband providers to compete on service and further extend new last-mile connections; investment in institutional networks provided schools, libraries, and other public buildings with great value: gigabit-capable service and the promise of long-term cost stability.

Separate projects in Northern Illinois and Chicago focused on broadband adoption, including direct access through expanded public computing center capacity and programs equipping participants with devices for permanent, at-home use. Another statewide project focused on state capacity building, technical assistance, and data collection and mapping.

Quinn Administration. The Illinois Broadband Opportunities Partnership (IBOP) was created to catalyze the state's ARRA participation, position its applicants competitively for ARRA broadband funding, and track progress over time, among other activities. Approximately \$70 million in state resources served as matching funds to leverage over \$200 million in federal ARRA grants.

In addition, the Quinn Administration targeted state funding toward three separate initiatives, adding another roughly \$5 million in state investment through the Broadband Innovation Fund; the Digital Divide Grant Program; and the Illinois Gigabit Community Challenge.

Other Federal Funding. To close broadband access gaps, primarily in rural areas, Illinois internet service providers have leveraged significant funding through various FCC programs and through other grant and loan programs from the United States Department of Agriculture (USDA). Although these funds have expanded internet access, they have not always produced investment in competitive speeds or scalable broadband that ensures the level of service and bandwidth necessary for many applications already in demand today.

The Connect Illinois vision and magnitude of funding offer a potential opportunity to leverage existing federal funding streams for investment in scalable broadband that will help Illinois meet its broadband goals, utilize public funding efficiently and effectively, and position Illinois homes, businesses, and community anchor institutions to thrive in the 21st century digital economy.

Broadband Advisory Council

To inform and advise the Connect Illinois program, the Governor-appointed Illinois Broadband Advisory Council convened in August 2019. The 25-member council includes representation from various internet service providers, state agency officials and legislators, and certain broadband-related stakeholders (Appendix A). Five working groups formed to discuss key issues and to identify various opportunities and barriers related to broadband infrastructure and utilization. The working groups included: access; economic development; education; infrastructure and technology; and telehealth.

Access. The working group on access explored barriers and opportunities for improved collaboration between broadband providers and private land owners and public facilities. Through careful communication and coordination, Connect Illinois deployments will seek to leverage shared stakeholder interests to improve access to public facilities and private assets, such as agricultural land, railroad crossings, and utility poles, wherever possible.

Economic development. The working group on economic development examined how to leverage the convergence of improved bandwidth, innovative applications, and useful metrics to promote and measure the impact of new broadband investment and related opportunities. It found that broadband is increasingly necessary for to attract businesses and grow the economy of today – and tomorrow. For instance, broadband was found to reduce transaction costs and improve access to online resources, boosting sales and reducing input costs. In addition, multiple studies suggest that rural broadband is positively associated with GDP growth; median household incomes; farm revenues; and non-farm rural business growth – with faster broadband having greater impact.

Residential broadband is also an important business-attraction tool, providing quality of life for workers and local customers – and the capacity for telework, flex schedules, or home-based business start-ups that could grow to produce new jobs or boost the property tax base.

The Governor's Five-Year Economic Plan highlights six primary sectors for driving growth: agriculture; energy; healthcare; information technology; manufacturing and transportation. This plan committed the Pritzker Administration to investing to grow these sectors while prioritizing fair and equitable growth, supporting small businesses, and strengthening the Illinois workforce. High-quality broadband infrastructure, along with increased adoption and digital rates, is foundational to this strategy. With regard to the rural economy, companies with high transaction costs or high labor intensity – such as financial services, wholesale trade, health, or tourism – stand to benefit the most from better broadband.

Education. The working group on education considered the barriers and opportunities at the intersection of broadband and education. While the federal e-rate program and state investment in the Illinois Century Network have produced clear successes, continued progress is needed to ensure that all students have access to the level of broadband they need – both inside the classroom and out – for such uses as interactive and multimedia curriculum, flip schedules, and distance learning.

Infrastructure and technology. The working group on infrastructure and technology focused on identifying elements of a successful broadband grant program, such as the need for mapping,

matching funds, clear funding criteria, and a balanced challenge process to ensure accurate mapping and fair grant administration.

Telehealth. The working group on telehealth identified barriers and opportunities related to expanded health care service and technology enabled by broadband connectivity, including the need for clear regulation of and reimbursement for telehealth services, related equipment for telehealth services and facilities, and the bandwidth necessary for real-time interaction between patient and health care professional.

Goals and Definitions

To guide investment and gauge progress, the Connect Illinois broadband strategy is anchored by distinct, yet interdependent goals ensuring short-term *basic access*, providing longer-term *high-speed access*, and demonstrating *broadband leadership* and *economic development* relative to other states and to countries around the globe.

Short-term goal: basic access. The short-term universal access goal provides that Illinois homes, businesses, and community anchor institutions around the state can access broadband at basic service levels:

By 2024, Illinois homes, businesses, and community anchor institutions throughout the state will have access to basic service of at least 25/3 Mbps.

Longer-term goal: High-speed broadband access. The longer-term universal access goal ensures that Illinois homes, businesses, and community anchor institutions have access to at least one provider with high-speed service levels necessary for advanced applications, heavy bandwidth use, or future need:

By 2028, Illinois homes, businesses, and community anchor institutions throughout the state will have access to at least one provider offering 100/20 Mbps service.


Legacy goal: broadband leadership. Just as bandwidth needs change, so does the definition of “broadband.” Connect Illinois seeks to lead relative to its peers on the broadband of today – and tomorrow:

By 2028, Illinois will place in the top three nationally, and top 12 globally, for broadband access.

Policy goal: economic development. Access to high-speed internet can catalyze innovations that benefit areas such as education, telehealth, advanced manufacturing, and precision agriculture:

Illinois will be a leader in broadband applications for agriculture, economic development, education, and telehealth while leveraging broadband infrastructure investments to support equitable growth.

Definition: basic broadband. Just as bandwidth needs change, so should the definition of what constitutes basic broadband. Connect Illinois will index its definition of broadband to track the FCC standard, currently 25/3 Mbps. However, broadband isn’t just about speed; even basic broadband should match sufficient speed with adequate capacity, affordable pricing, appropriate reliability, and acceptable latency.



Definition: unserved areas. If a home, business, or community anchor institution lacks access to basic broadband, it is unserved. Connect Illinois considers those areas falling below this threshold, currently set at 25/3 Mbps, to be unserved areas.

Definition: underserved areas. Recognizing that bandwidth needs are rapidly changing, Connect Illinois considers any home, business, or community anchor institution without access to broadband of at least 100/20 Mbps as underserved. Areas falling below this threshold are underserved areas.

Connect Illinois Program

With \$400 million available for broadband deployment grants targeting areas of greatest need, Connect Illinois is an equity-driven infrastructure program, first and foremost. Challenges tied to population sparsity, geography, or low take rate continue to stand as barriers to broadband ubiquity. In particular, Connect Illinois will seek to address disparities in broadband access and adoption in rural regions and black and brown communities across the state. Understandably, private investment has doubled down on relatively profitable service territories – growing the broadband access gap as a result. Connect Illinois funding will address this market failure and recalibrate the business case for new deployments, connecting communities and individual consumers with scalable service throughout the state.

The magnitude of the Connect Illinois investment is critical to its success: First, it signals – to the public, providers, and policymakers alike – the significance and scale of the broadband access challenge and the Connect Illinois vision. Second, it allows for phased deployment and planning – for both grant applicants and grant administrators. Third, it creates leverage to push private investment and federal funding toward scalable technology that meets the broadband needs of today – and tomorrow.

Broadband deployment grants. The Connect Illinois program will focus on expanding broadband connectivity by promoting the following project criteria:

- *Competitive matching grants* will be scored based upon merit and require a certain non-state match, transforming the Connect Illinois investment into a potential total public-private investment of \$1 billion or more in state and non-state sources, whether federal, local, or private funds.
- *Applicant inclusive* approach will inspire a wide array of proposals, including but not limited to those from providers, cooperatives, municipalities, tribal entities, nonprofits, and public-private partnerships.
- *Technology neutral* approach will enable a diverse set of providers and related technology to qualify for funding, including various wireline and wireless approaches.
- *Fully scalable* technology will allow for future upgrades and ensure long-term return on the historic Connect Illinois investment.

- *Open access and shared use* preference will acknowledge that collaboration over infrastructure promotes better service for consumers and expanded network coverage for providers, producing a triple win by stretching Connect Illinois to its last-mile limits.
- *Community-driven* approach will promote direct engagement among providers, local communities, and individual stakeholders to collaborate and build toward a shared community technology vision.
- *Affordability* focus will ensure that the Connect Illinois program takes a comprehensive approach to promoting broadband access through broadband equity, addressing one critical barrier to adoption: a consumer's cost to connect.
- *Synergy with the Governor's Five-Year Economic Plan* will provide a strategic frame for aligning Connect Illinois investment with broader economic goals and opportunities.
- *Emphasis on applications* will showcase cutting-edge broadband-driven innovations in areas such as agriculture, economic development, education, and telehealth.


Leveraging broadband for innovation in economic development or quality of life requires more than a fast connection. This is particularly true when it comes to empowering communities to participate in anticipation of a broadband deployment or encouraging consumers to utilize broadband once it is available. Accordingly, Connect Illinois will augment its historic investment in broadband infrastructure with value-added work to prime the broadband pump – through attention to capacity building and planning for communities and digital literacy, adoption, and inclusion for consumers.

Community planning and capacity building. The most compelling infrastructure grant applications will be community driven, with deep connections between the application and a community's technology vision, needs, and goals. Targeted engagement and programming will be necessary to promote community involvement throughout the grant process, eventual deployment, and ongoing broadband adoption and utilization. Without meaningful community involvement, applications may tend toward minimal impact, missing key opportunities for advances in such areas as community and economic development, education, or telehealth.

To jump-start community involvement and to maximize the impact of the Connect Illinois investment, effort will be taken to engage individual communities, inspire and support community broadband planning and goal-setting, and galvanize local resources and awareness.

This effort will seek to leverage state and non-state funding to design programming, tap experts in community broadband engagement, and lay the groundwork for meaningful, community-driven infrastructure deployment and lasting approaches to broadband utilization.

Digital literacy, adoption, and inclusion. For a state, local community, or individual family to compete in the 21st century digital economy, all barriers to broadband access must be overcome. At the same time Connect Illinois invests in broadband infrastructure, the program will leverage complementary efforts to ensure that all Illinoisans have both the requisite broadband service and necessary broadband knowhow.



More or better broadband deployment alone won't close the broadband access gap, but an historic infrastructure investment matched with meaningful civic engagement will position Illinois communities and consumers alike to compete in an increasingly digital global economy – and enjoy the advances in quality of life that come with connectivity of all kinds.

Office of Broadband

Created in September 2019, the Office of Broadband is housed within the Illinois Department of Commerce and Economic Opportunity. The office is responsible for administering the Connect Illinois broadband infrastructure grant program. In addition, the office will develop and administer related programming – such as in the areas of community planning and capacity building and digital literacy, adoption, and inclusion.

Beyond the administration of grants and programming, the office will work with one or more third-party vendors to develop state-specific mapping of broadband assets, including available technology and levels of service. Recognizing the limitation of current mapping offered by the FCC, this effort will leverage otherwise proprietary broadband provider data – and direct consumer feedback – to generate interactive mapping detailing various technology and levels of service available to communities and consumers throughout Illinois. Among other attributes, the mapping will enable analysis of various layers, such as by county, legislative district, or deployment year.

Finally, the office will serve as a one-stop shop for all things broadband. From infrastructure to utilization, public funding to private deployment, the office will strive to be a useful resource to individual consumers, local communities, various state agencies, and broadband providers alike. Just as broadband connects seemingly distinct aspects of our lives or otherwise siloed areas of government, the office of broadband seeks to make meaningful connections – including through thoughtful public-private partnership, innovative cross-sector collaboration, and increased efficiency within state agency and across all levels of government.

Appendix A: Broadband Advisory Council Membership

Member	Organization
Deno Peridou	AT&T
Melia Carter	Verizon
Chris Nelson	Comcast
Rick Holzmacher	Illinois Rural Broadband Association
Zak Horn	Metro Communications
Steven Hill	Satellite Broadcasting and Communications Association
Karen Boswell	Frontier
Josh Shallenberger	CEO of Shelby Electric Coop
Mike Chamberlain	Illinois Municipal League/Mayor of Belvidere
Anne Slaughter	Illinois Library Association
Deb Alfredson	Illinois Association of Housing Authorities
Jeff Newell	Illinois Community College Board
David Antonacci	Illinois Board of Higher Education
Bill Bodine	Illinois Farm Bureau
Ryan Gruenenfelder	AARP
Nikki Budzinski	Department of Commerce and Economic Opportunity
Lori Sorenson	Department of Innovation and Technology
Paula Basta	Department of Aging
Susan Satter	Illinois Attorney General
Jim Zolnierik	Illinois Commerce Commission
Theresa Eagleson	Illinois Department of Healthcare and Family Services
Sen. Bill Cunningham-D	Illinois Senate
Sen. Jil Tracy-R	Illinois Senate
Rep. John Connor-D	Illinois House of Representatives
Rep. Keith Wheeler-R	Illinois House of Representatives