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SCHOOLS, HEALTH & LIBRARIES
BROADBAND COALITION



CONNECTING ANCHOR INSTITUTIONS: A BROADBAND ACTION PLAN

Preface, Foreword, and Executive Summary

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Preface

Community anchor institutions (CAIs) need open, affordable, high-capacity broadband connections to the Internet to accomplish their mission and serve the public. High-speed Internet access is essential for learning and education, workforce development, creativity and collaboration, telemedicine, civic engagement, access to e-government services, and a host of other individual and community needs.

Anchor institutions – schools, healthcare providers, libraries, public media outlets, public housing, community centers, community colleges and other institutions of higher education – serve as the gateway to the community. Deploying open, affordable, high-speed broadband connectivity to anchor institutions stimulates economic growth, promotes digital equity and encourages residential broadband adoption.

Unfortunately, the broadband needs of anchor institutions often do not receive the attention they deserve. The broadband industry and policymakers often focus on small businesses and/or residential users and overlook the broadband needs of community anchors. Many schools, libraries, and health clinics, especially those in rural areas, simply cannot afford the broadband connections they need.

Connecting Anchor Institutions: A Broadband Action Plan was developed by the Schools, Health & Libraries Broadband (SHLB) Coalition to provide ideas and actionable policy recommendations for government leaders at the federal, state, and local levels to address the broadband needs of anchor institutions.

The SHLB Coalition is a broad-based organization of anchor institutions, commercial companies and non-profit broadband providers, foundations, public interest groups, and others that work together to develop and support policies to improve broadband connectivity for anchor institutions and their communities in all regions of the country – urban, suburban, and especially rural.

The SHLB Coalition believes that deploying broadband networks to serve anchor institutions is a cost-efficient and vitally-important investment in our nation’s future. Deploying broadband to anchor institutions can improve broadband access to millions of people (students, low-income and elderly people, migrants, etc.) who may not otherwise have access to the Internet. Anchor institution personnel train people about broadband services and technologies, thereby stimulating broadband usage and demand. Furthermore, high-capacity, middle-mile, broadband networks serving community anchor institutions are “jumping off points” to serve surrounding residential and business consumers.

This **Action Plan** is the first component of our national **Grow2Gig+ Campaign**, the SHLB Coalition’s effort to make gigabit speeds for anchor institutions a national priority. It is a call to action that brings together policymakers, educators, library and health care leaders, technology experts, and network builders to lead the way.

We want the **Action Plan** to encourage further research and examination of CAI broadband needs and solutions. On our part, we intend to post additional information, research, and case studies on the Action Plan website (www.shlb.org/action-plan) and we invite you to contribute your information and join the discussion.

The SHLB Coalition is grateful to a number of parties who generously provided their time and expert insights in preparing this **Action Plan**. We interviewed the following leading authorities in preparing **Connecting Anchor Institutions: A Vision of Our Future**. These include Susan Crawford, John A. Reilly Clinical Professor of Law at Harvard Law School and Co-Director of the Berkman Center; Dr. S. Dallas Dance, Superintendent, Baltimore County Public Schools; Sari Feldman, former President, American Library Association, and Executive Director, Cuyahoga County Public Library; and Douglas Levin, Founder and President, EdTech Strategies, LLC.

We are thankful for the dedicated work of the SHLB Broadband Action Plan Steering Committee: Larra Clark (American Library Association); Adrienne Furniss and Kevin Taglang (Benton Foundation); Bob Collie, Lillian Kellogg, and Rex Miller (Education Networks of America); and Susannah Spellman (Internet2/USUCAN).

We give special thanks to the authors who contributed to the SHLB Broadband Action Plan: Amelia Bryne, Kelleigh Cole, Joanne Hovis, Tom Koutsky, Blair Levin, Christine Mullins, Angela Siefer, and Gina Spade. In addition, thank you to the following people for making the project possible: Theresa Stroisch (Brooktana), who served as expert Project Manager; Amy Robinson and Jeff Sharp for their valuable communications and public relations advice; and Emily Olson, SHLB's Director of Operations, for her top-notch oversight of this project.

We look forward to your support to ensure that community anchor institutions all across America have open, affordable, high-capacity broadband.

John Windhausen, Jr.

Executive Director

SHLB Coalition

Foreword

We just passed the 20th Anniversary of the Telecommunications Act of 1996. In a moment of bipartisanship rare in Washington DC these days, observers on both sides of the aisle praised the Act for reiterating and re-invigorating the national commitment to “universal service,” the idea that all in our country must be connected to core communications services. Not only did the Act earn praise for ensuring high-cost areas and low-income individuals are connected, the Act took an additional, innovative step – mandating that schools, libraries, and rural health care facilities similarly have the support they need to connect to modern communications networks.

Such principles and mandates are essential; unfortunately they are not enough to ensure that the vision becomes, and stays, real. Changes in markets and technologies present both opportunities and challenges to our universal service goals. As we realized in writing the National Broadband Plan in 2010, for example, the Act’s mandate to connect classrooms and libraries would fall short without support for Wi-Fi, a service not generally available in the earliest implementation of the Act. Just as the country needed Congress to adjust communications policy for the 21st Century, schools, libraries, and health care facilities need someone to make sure our communications policies continually “course correct” and ensure that the network facilities are upgraded to meet the needs of today and the future.

Fortunately, for the past seven years, the Schools, Health & Libraries Broadband (SHLB) Coalition has stepped in to play the vitally important role of advising policymakers how to connect anchor institutions, high-speed broadband, economic development, and universal service. SHLB has led the efforts to modernize our approach to broadband policy and made sure the voices of these critical public facilities are heard, often rising above the din of loud voices that too often characterize DC debates. As schools, libraries, and health care providers become—as is true for nearly all services—more and more dependent on the commons of collaboration we call broadband, SHLB’s voice becomes even more important to the future effectiveness of the institutions and the communities they serve.

The SHLB Coalition’s **Action Plan** is just the latest example of its ongoing influence. This work builds upon and puts “meat on the bones” of Goal #4 in the National Broadband Plan, to bring gigabit connectivity to anchor institutions across the country. Indeed, SHLB is trying to do for community anchor institutions what Gig.U has done for university communities. SHLB has accomplished great things. But its legacy, with your support, will be to bring the limitless opportunities of modern communications to all anchor institutions and the entire country.

Blair Levin

Former Executive Director of the U.S. National Broadband Plan
Senior Non-Residential Fellow, Brookings Institution Metropolitan Policy Program
(For identification purposes only)

Executive Summary

The future belongs to those with access to high-speed broadband. In the 21st century, anyone seeking to launch a business, exchange medical records, conduct a research project, obtain a college degree, engage in community activities, or create his or her own path will need both a high-capacity Internet connection and the digital skills necessary to navigate the online world. Community anchor institutions (CAIs) – schools, libraries, healthcare providers, community colleges, public media, public housing, and other community organizations – are the key institutions that enable universal access to broadband. CAIs make essential broadband Internet services available to those who are most in need and ensure that the benefits of the Internet are widely available to everyone—promoting digital equity and opportunity for all.

To fulfill this mission, every anchor institution needs to have open, affordable, high-capacity broadband that is scalable and adaptable to the growing information needs of the 21st century. Many broadband policies and plans focus on the needs of business or residential consumers without recognizing the significant, and sometimes unique, broadband needs of anchor institutions. Anchor institutions are the third leg of the stool for a healthy community. Connecting every anchor institution to a high-capacity broadband network is a cost-effective way to ensure that every community and every individual has high-speed access to the Internet.

Providing CAIs with high-capacity broadband – wireline and wireless – has many benefits: it stimulates economic growth, promotes individualized learning and STEM education, reduces the cost of healthcare through telemedicine, and expands community services. CAI broadband also promotes residential broadband adoption. Libraries and schools, for instance, offer digital literacy training for students, parents, and community members. Including CAIs in network deployment plans can improve the long-term economic viability of the network because CAIs serve as “anchor tenants.” Building open, middle-mile networks to anchor institutions also promotes competition. Networks built to CAIs with open interconnection policies provide “jumping off” points that allow competitive broadband providers to extend service to the surrounding community.

Connecting Anchor Institutions: A Broadband Action Plan offers policymakers at all levels of government – as well as those directly involved in the adoption and deployment of broadband – a roadmap for improving the broadband connectivity of anchor institutions. The opening paper, **A Vision of Our Future**, describes the critical importance of high-capacity broadband to education, community services, health, civic engagement, digital equity, and economic growth. It also identifies key data points showing that many CAIs lack adequate broadband today and explains why improving anchor institution broadband is an urgent national priority.

The **Action Plan** then provides **ten policy papers**, written by a variety of experts, focusing on key issues that must be addressed to ensure that anchor institutions have the open, affordable, high-capacity broadband they need to serve their communities. Each policy paper summarizes the issue, provides examples, recommends steps that policymakers can take to address the problem, and provides resources for further research. In other words, the policy papers provide a playbook for achieving the goals set forth in the introductory vision paper.

While the papers address ten different topics, three common themes emerge from our analysis:

Sharing

Sharing, aggregation, partnerships, and collaboration were common solutions identified by several of the papers. Public-private partnerships are often the best model to bring parties together behind a comprehensive broadband strategy. Eliminating silos and aggregating many users on a single network reduces per-unit costs and makes network deployment and use more affordable.

Competitive Options

Promoting a variety of technological and competitive options can provide enormous benefits to anchor institutions. Because CAIs come in all shapes and sizes and are located in all types of environments, policymakers need to be careful not to adopt a “one-size-fits-all” strategy. Some CAIs may choose to purchase lit fiber, dark fiber, Wi-Fi, cellular, cable, or other technologies. Some may prefer to engage a traditional broadband provider, a competitive provider, a municipality, or a research and education network, and others may choose to build their own broadband networks. It is important for CAIs to have the opportunity to choose the technologies and providers that best meet their particular needs, even if that means self-provisioning.

Funding

Deploying broadband networks can be expensive, and additional investment from both the private and public sectors will be needed to meet anchor institutions’ connectivity goals. Funding can be provided in a variety of ways – directly to CAIs, to network providers, or to non-profit organizations that redistribute the funding to others. Often, the biggest barrier to acquiring high-capacity broadband can be the up-front deployment costs. Grants, loans, and private sector capital can be important tools to fund network build-out and also reduce ongoing monthly service charges.

Each of the ten policy papers is summarized briefly below.

- 1. Broadband Needs Assessment and Planning for Community Anchor Institutions:** *Governments should identify anchor institution broadband needs and develop plans with stakeholders, broadband providers, and other partners to attract additional investment to fill broadband gaps.* By Kelleigh Cole

Conducting an inventory of the locations and speeds of existing broadband networks for CAIs – and identifying gaps in broadband coverage – can help target investments to areas most in need. This paper urges policymakers to gather detailed, granular information about the availability and use of high-capacity broadband services needed by CAIs, rather than relying on outdated or generic claims that an area is already served by existing providers.

- 2. Wi-Fi and Wireless Networking for Community Anchor Institutions:** *By supporting robust Wi-Fi and wireless networking for community anchor institutions, policymakers can help enable a wide range of 21st century Internet applications for improved education, learning, and medical care.* By Amelia Bryne

Because of surging demand for Wi-Fi connectivity, many CAIs do not have the capacity and coverage to offer enterprise-grade, ubiquitous Wi-Fi access. Emerging technologies can provide new kinds of wireless connectivity between buildings and to communities. Recommendations include continuing E-rate support for internal connections, making more unlicensed spectrum available, sharing CAI wireless networks with the surrounding community, and providing CAIs with technical advice to ensure they are using wireless most efficiently.

- 3. Partnerships, Sharing, and Community Anchor Institution Broadband:** *Joint procurement, aggregated purchasing, and coordinated planning can significantly reduce the costs of providing high-quality broadband to anchor institutions.* By Joanne Hovis

Aggregating the buying power of different types of CAIs through statewide or regional procurement is a tested best practice that can enable anchor institutions to achieve lower per unit pricing, higher bandwidth, and better service quality. Broadband policies and programs should promote, rather than limit, cross-sector, aggregated purchase of high-capacity broadband.

- 4. Promoting Competition for Community Anchor Institution Broadband Services:** *Policymakers can improve anchor institution broadband by fostering competition, lowering prices, and promoting open interconnection and shared use of broadband networks.* By John Windhausen, Jr.

Competition breeds greater investment, more jobs, lower prices, and higher quality customer service. Yet many CAIs still only receive one or no responses after issuing a request for service. Policymakers can promote competition for CAI broadband by ensuring that broadband networks are open to interconnection, reducing prices of wholesale services, and promoting network sharing.

- 5. Broadband Infrastructure Policy and Community Anchor Institutions:** *Streamlining access to rights-of-way and effectively managing public land can expedite the deployment of high-capacity broadband to anchor institutions.* By Tom Koutsky

Numerous studies document that rights-of-way management policies can dramatically impact the cost and speed of broadband deployment. This paper recommends “dig once” policies, installing empty conduit for competitive providers, permitting CAIs to use dark fiber, standardizing lease agreements for all providers, implementing asset inventory databases, improving wireless tower siting policies, and simplifying rights-of-way approval processes.

- 6. Community Anchor Institutions Served by Government and Non-Profit Fiber Networks:** *State and local government networks can often provide anchors with high-quality bandwidth at affordable rates.* By Joanne Hovis

Local governments, research and education networks, and other non-profit providers have been serving anchor institutions for decades. Because of their non-profit status, these providers often focus on long-term and community-based goals and can pass through cost savings to their CAI customers. Key recommendations include expanding the availability of municipal and non-profit networks, promoting the use of shared networks to serve multiple CAI sectors, and allowing municipal and non-profit providers to build excess capacity for use by commercial companies.

- 7. Broadband Subsidies for Community Anchor Institutions:** *Community anchor institutions need financial support so they can afford to purchase high-capacity broadband services.* By Gina Spade

Studies show that CAIs often cannot afford to purchase the broadband capacity they need to serve their communities. Policymakers can address CAIs’ financial constraints with direct subsidies to CAIs, encouraging them to work together in planning joint procurement of broadband services, and expediting review of consortium applications for funding that can yield cost savings.

- 8. Government Funding for Broadband Network Providers Serving Community Anchor Institutions:** *Providing government funding to broadband network providers serving CAIs encourages economic development, expands educational opportunity, improves health care services, and promotes digital equity.* By Amelia Bryne

Governments can provide funding directly to broadband providers to deploy robust broadband networks for anchor institutions when the commercial market is not able to do so. Recommendations include creating competitive grant programs, promoting public-private partnerships, considering non-traditional financing such as preferential tax treatment and loan guarantees, and allowing non-traditional providers to participate in broadband funding programs.

- 9. Rural Broadband Programs and Community Anchor Institutions:** *Governments should explore funding, network sharing, and service obligations to ensure that rural and tribal community anchor institutions have affordable, high-capacity broadband.* By Tom Koutsky

Rural broadband networks require significant investment to cover high deployment costs and ongoing operations. More than 39 percent of rural Americans lack adequate access to broadband service, compared to

only 4 percent in urban areas. In the absence of a sustainable business model for rural broadband deployment, policymakers should provide enhanced financial incentives to attract private sector investment. Policymakers should permit open access and interconnection to facilitate the entry of new providers and implement service obligations to ensure recipients of government funding provide CAIs with high-capacity broadband.

10. Community Anchor Institutions and Residential Broadband Adoption: *Community anchor institutions are essential partners to increasing broadband adoption.* By Angela Siefer

Residential broadband adoption has stalled – about one-third of American homes still do not subscribe to landline broadband service. CAIs can help increase residential broadband adoption in many ways. CAIs can provide digital literacy training, educate consumers about government programs to promote broadband adoption, lead community planning efforts, and, in some cases, provide wireless broadband services directly to consumers. For these efforts to succeed, however, policymakers must provide CAIs and their community partners with locally customized resources to meet the needs of specific populations.

This **Action Plan** does not contain all the answers, but offers a menu of ideas and seeks to stimulate greater discussion, research, and most importantly, action.

Over the next few years, policymakers and influencers at all levels will determine whether the country will be divided between digital “haves” and “have-nots,” or whether we capture the benefits of the Internet for all. Open, affordable, high-capacity broadband enables CAIs to do what they do best—allow every student, patient, patron, and person to reach their potential in our increasingly digital world. It’s time for action.

OPEN, AFFORDABLE, HIGH-CAPACITY BROADBAND for COMMUNITY ANCHOR INSTITUTIONS IS AN ATTAINABLE GOAL, BUT ONLY IF WE REACH TOGETHER.

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LEARN

Stay informed and learn about the best broadband policies and examples of how to improve anchor institution connectivity by reading and contributing to [SHLB Coalition's Action Plan web portal](#).

ADVOCATE

Reach out to policymakers at the local, state, and federal level and help us fight for digital equity.



“Grow2Gig+: Anchors Advance Communities” is the SHLB Coalition campaign to make gigabit speeds for anchor institutions a national priority. “Connecting Anchor Institutions: A Broadband Action Plan” is a crucial component of the Grow2Gig+ campaign, which also includes an interactive website that provides a hub for discussion, updates, and information to guide these national efforts. Gigabit broadband for community anchor institutions is an attainable goal, but only if we reach together. Help us Grow2Gig+! www.shlb.org/action-plan



The **Schools, Health & Libraries Broadband (SHLB) Coalition** is a 501(c)(3) advocacy organization that supports research and public policies that promote open, affordable, high-capacity broadband connectivity for anchor institutions and their communities. Founded in 2009 in Washington, DC, the SHLB Coalition receives financial support from its non-profit and corporate members and from the Bill & Melinda Gates Foundation. For more information, visit www.shlb.org/.

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