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Comments of the
Schools, Health & Libraries Broadband Coalition (SHLB Coalition)
Consortium for School Networking (CoSN),
Education Networks of America (ENA), and
OneNet
on the National Broadband Research Agenda

(sent by e-mail to NBRArfc2016@ntia.doc.gov)

The Schools, Health & Libraries Broadband Coalition (SHLB Coalition), the Consortium for School Networking (CoSN), Education Networks of America (ENA), and OneNet are pleased to provide the following comments to the National Telecommunications and Information Administration (NTIA) and the National Science Foundation (NSF) regarding the National Broadband Research Agenda, pursuant to the Request for Comments published in the Federal Register on September 9, 2016.[1]

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[1] Federal Register, Vol. 81, No. 175, p. 62479, Friday, September 9, 2016.

The SHLB Coalition is a broad-based coalition of commercial and non-commercial organizations that work together to promote open, affordable, high-capacity broadband for anchor institutions and their communities. High-capacity broadband is the key infrastructure that libraries, K-12 schools, community colleges, colleges and universities, health clinics, public media and other anchor institutions need for the 21st century. Enhancing the broadband capabilities of these community anchor institutions is especially important to the most vulnerable segments of our population – those in rural areas, low-income consumers, disabled and elderly persons, students, minorities, and many other disadvantaged members of our society. A complete list of our Members is available at www.shlb.org.

CoSN (the Consortium for School Networking) is the premier professional association for district technology leaders. For nearly 25 years, CoSN has provided leaders with the management, community building, and advocacy tools they need to succeed. Today, CoSN represents over 13 million students in school districts nationwide and continues to grow as a powerful and influential voice in K-12 education.

Education Networks of America ® (ENA) is the leading provider of Infrastructure as a Service (IaaS) solutions to K-12 schools, high education institutions, and libraries. Since 1996, ENA has worked with customers to ensure they have the robust and reliable high-capacity broadband, Wi-Fi/LAN, communication, and cloud solutions they require to meet the present and emerging technology needs of the communities they serve.

OneNet's mission is to advance technology across Oklahoma. OneNet enhances economic growth by meeting the mission-critical needs of our state's education, research, health care and public service communities. OneNet is committed to serving as the leading Internet and network service provider for the state of Oklahoma. OneNet strives to fulfill a critical role within the success of our state by enabling citizens to cross state boundaries and reach around the world. OneNet accomplishes this vision by keeping pace with ever-changing technological advancements and by being the first to deploy those technologies across Oklahoma. By providing leading-edge innovation, OneNet empowers its customers to create their own paths to success and improve their lives and the lives of those they serve.

The SHLB Coalition previously provided comments to the Broadband Opportunity Council (BOC) explaining why focusing on building broadband to community anchor institutions should be a national priority. In brief, deploying high-capacity broadband *to and through* anchor institutions

1. ensures that *all* consumers have access to high-speed Internet connections, either at their homes or at their neighborhood anchor institution (or both);
2. is cost-effective, because building to anchors in every community is less costly than deploying to every single home;
3. is achievable, as roughly 60% of anchors already have a fiber connection;
4. fosters additional investment by last-mile providers who can extend service from the anchors to the residential and business community;
5. creates a broadband platform for economic growth; and
6. promotes delivery of health care to rural communities through telemedicine.

According to some estimates, 41% of schools do not have enough bandwidth to meet the minimum goals for Internet access established by the FCC and SETDA, 42% of public libraries have a broadband connection slower than 10 Mbps, and 88% of health care providers have less than a 50 Mbps connection in non-metro areas.[2] These broadband shortfalls threaten our education, our access to information, and our health. The National Broadband Research Agenda should examine in greater detail the benefits of anchor institution broadband so that policy-makers can institute anchor institution-focused broadband policies based on the most efficient and successful efforts that have demonstrated success and that are the most cost-effective solutions.

The following discussion provides more specific recommendations for the National Broadband Research Agenda:

1. **Examine the impact of the interconnection agreements signed by BTOP awardees on deployment of last-mile service to business and residential consumers, backhaul costs, and other economic benefits.**

The Broadband Technology Opportunities Program (BTOP) included an open interconnection requirement that allowed unaffiliated providers to connect with BTOP-funded infrastructure. NTIA has found that BTOP awardees signed over 800 interconnection agreements with private sector providers, but NTIA has not gathered or analyzed these agreements to determine what impact they may have had on pricing, on the provision of last-mile service to communities, or on the availability of backhaul infrastructure. There are isolated reports of agreements with Wireless Internet Service Providers (WISPs), with small local telephone companies, with cable

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[2] See the SHLB Coalition Action Plan, available at www.shlb.org/action-plan, and "What Can the National Broadband Map Tell Us About the Health Care Connectivity Gap?", Brian Whitacre, Wheeler and Landgraf, Journal of Rural Health, March 15, 2016, at http://www.dailyyonder.com/rural-healthcare-falls-further-behind-in-broadband-speeds/2016/03/15/12049/.

companies, etc., but no one has gathered this information on a systematic basis and analyzed the impact.

2. Assess how community anchor institutions can promote digital equity for all.

The SHLB Coalition supports research to explore how community anchor institutions (such as schools, libraries, health providers, community centers, public housing, public media, etc.) can promote digital equity for all people. For instance, all students should have access to sufficient high-capacity broadband to study at school, at home, and throughout the community. Research projects could evaluate the speeds and prices that will best promote ubiquitous access (both wired and wireless) and the role of anchor institutions in promoting such access. Such research could also evaluate student outcomes and digital learning skills when students use different kinds of devices and have access to a variety of educational and informational services. Similarly, research could explore the access and devices that are most beneficial for library patrons, telemedicine patients, low-income housing residents, and other population groups.

3. Assess the relationship between high-speed broadband connectivity and health outcomes.

The FCC recently published a map that overlays the availability of residential broadband and health data by county or census block. While this map is useful, it focuses on residential broadband, not the high-speed broadband needed by hospitals and health clinics. The map also simply provides an overlay of these maps, but does not itself provide an analysis of the relationship between broadband and health. It would be extremely valuable to know the impact of high-capacity broadband for health institutions and the impact on health in each community. If, for instance, having a fiber connection to a health clinic improves certain type of health conditions in a community, policy-makers would know to target broadband investments in those communities that suffer from that condition. This analysis would require some econometric analysis to explore the wide variety of other factors that could impact the health of a community. Such research could also explore the impact of broadband on telemedicine by studying (for example), the number of people served by telemedicine, the relative costs (and cost savings) both for the patient and the health institution, the travel costs (and cost savings), and improved access to digital health services (such as remote patient monitoring).

4.   **Refine the Program to Map the Availability and Use of Broadband to and by Anchor Institutions.**

Funding for the State Broadband Initiative mapping project came to an end in 2014, and the responsibility for updating the map was transferred to the FCC. The FCC, however, has not been able to obtain funding to continue the process of gathering and analyzing mapping data. It will continue to gather Form 477 broadband data from the broadband industry, but this data is aggregated at a high level (census tracts, not smaller census blocks) and does not reflect the broadband needs of anchor institutions. The SBI Program did not necessarily gather information in a consistent manner from state to state, and it tended to focus on broadband subscribership rather than availability. To be done properly, the mapping questions should be consistent from state to state, and should explicitly ask anchor institutions what anchor institutions what they purchase, and ask broadband providers what high-speed connectivity available at the specific anchor institution address (not what is generally available in the region).

5.   **Gather and Publish Information about Municipal Broadband Projects.**

The federal government could gather and publish accounts of communities that have financed and deployed broadband networks that are financially sustainable. For instance, the federal government could develop White Papers that include the network infrastructure diagrams and demonstrate how to make affordable, open, high-capacity connections to CAIs. While some in the industry claim that municipal networks are not viable financially, there appear to be many such community networks that are in fact financially solvent and beneficial to their communities for several years.

6.   **Require More Comprehensive Data Collection.**

The success of the National Broadband Research Agenda depends on the quality of the underlying data. All Federal government agencies involved in broadband programs (including USAC) should have the responsibility for collecting, analyzing, and making public the data about use of the program. Such data can help guide policy-makers to improve the results of the program and allow the program to target the anchor institutions most in need.

Thank you for the opportunity to submit these comments.

Sincerely,

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