Broadband Opportunity Council Agencies' Progress Report

January 2017

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Executive Summary

In our increasingly connected society, access to high-speed broadband service has become a necessity for consumers, businesses, and society. Recognizing this imperative, President Obama in March 2015 signed the Presidential Memorandum on "Expanding Broadband Deployment and Adoption by Addressing Regulatory Barriers and Encouraging Investment and Training," (Memorandum) creating the Broadband Opportunity Council (Council).[1] The Council included 25 federal agencies and departments with missions or programs with the potential to drive broadband infrastructure investment and adoption. The Memorandum asked the Council to produce specific recommendations to increase broadband deployment, competition, and adoption through executive actions within the scope of existing agency programs, missions, and budgets. Agencies were directed to use all available and appropriate authorities to:

- *Identify and address regulatory barriers that may unduly impede either wired broadband deployment or the infrastructure to augment wireless broadband deployment;*
- *Encourage further public and private investment in broadband networks and services;*
- *Promote the adoption and meaningful use of broadband technology; and otherwise*
- *Encourage or support broadband deployment, competition, and adoption in ways that promote the public interest.*

The participating agencies engaged in a comprehensive examination of their existing programs and authorities to address the President's request, which included outreach with external stakeholders.[2] In September 2015, the Council issued its report outlining the commitments of agencies to improve access to broadband.[3]

Agencies have made great strides toward meeting the goals set forth in the Memorandum by fulfilling, and even exceeding, the initial commitments outlined in the Council's report. To date, agencies have completed more than one-third of the action items and have made great progress on the remaining action items.

The Council has fostered increased collaboration among agencies, identified additional opportunities to improve broadband access, and elevated the importance of broadband as a cross-cutting policy objective across the federal government. However, agencies recognize that their work is not complete and will require sustained engagement and interagency coordination for

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[1] White House, "Presidential Memorandum - Expanding Broadband Deployment and Adoption by Addressing Regulatory Barriers and Encouraging Investment and Training," March 23, 2015, https://www.whitehouse.gov/the-press-office/2015/03/23/presidential-memorandum-expanding-broadband-deployment-and-adoption-addr (Memorandum).

[2] NTIA, "Broadband Opportunity Council comments," June 12, 2015, https://www.ntia.doc.gov/federal-register-notice/2015/broadband-opportunity-council-comments.

[3] White House, issued September 21, 2015, https://www.whitehouse.gov/sites/default/files/broadband_opportunity_council_report_final.pdf. The Council delivered the report to the President on August 20, 2015, meeting the deadline imposed in the Presidential Memorandum.

many years to come. Going forward, career-level agency staff (listed in Appendix A) will finalize the implementation of the action items and collaborate to fulfill the Council's mission.

1. Background and Context

> *"Day by day, access to broadband, and the advanced applications it facilitates, becomes more integral to the daily lives of Americans and to the mission and work of the Federal government and its Agencies. Broadband drives the provision of services across nearly all government functions and across many of the activities that are key to advancement and opportunity for all Americans. …Today, broadband is taking its place alongside water, sewer and electricity as essential infrastructure for communities."*
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> *– Broadband Opportunity Council Report to the President, August 2015*

Broadband as Essential Infrastructure

Broadband provides numerous socio-economic benefits to American communities and citizens, including economic growth, improved educational opportunities, access to better healthcare, greater employment opportunities, and enhanced global competitiveness for American businesses.

Broadband also plays a significant role in economic development and growth. Research among Organisation for Economic Co-operation and Development (OECD) countries shows that a 4 Mbps increase in household broadband speed is associated with a roughly 4 percent increase in household income.[4] Similarly, academic research shows that businesses adopting broadband-based processes have seen increases in their employees' labor productivity of an average 5 percent in the manufacturing sector and 10 percent in the services sector.[5] From America's urban centers to its rural plains, broadband helps create and build more dynamic communities by driving commerce, enriching education, enhancing healthcare, improving public safety, connecting communities, and sparking innovation.

Broadband is the essential foundation for our digital economy, which has created millions of new jobs in the United States.[6] Digitally connected Americans are the modern workers, creative innovators, and new customers who will help sustain our nation's global competitiveness. However, there are still a large number of Americans unable to access broadband at the speeds necessary to make full use of its benefits. Federal Communications Commission (FCC) and National Telecommunications and Information Administration (NTIA) datasets clearly demonstrate these significant gaps in access to broadband infrastructure:

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[4] Ericsson, Arthur D. Little and Chalmers University of Technology, "Socioeconomic effects of broadband speed," September 2013, p. 2, https://www.ericsson.com/res/thecompany/docs/corporate-responsibility/2013/ericsson-broadband-final-071013.pdf.

[5] Fornefeld, Martin and Delaunay, Gilles and Elixmann, Dieter, "The Impact of Broadband on Growth and Productivity," 2008, p. 6, https://www8.gsb.columbia.edu/citi/sites/citi/files/Panel%203.Martin%20Fornefeld%20paper.pdf.

[6] U.S. International Trade Commission, Digital Trade in the U.S. and Global Economies, Part 2, August 2014, p. 71, https://www.usitc.gov/publications/332/pub4485.pdf.

- **10 percent of all Americans** (34 million people) lack access to fixed broadband as currently defined by the FCC.[7]
- **39 percent of rural Americans** (23 million people) lack access to fixed broadband.
- **41 percent of Americans living on tribal lands** (1.6 million people) lack access to fixed broadband.[8]

Additionally, millions of U.S. households are not online. Data from NTIA's July 2015 Computer and Internet Use Supplement to the U.S. Census Bureau's Current Population Survey confirm this reality.

- In 2015, **33 million households (27 percent of all U.S. households)** did not use the Internet at home, where families can more easily share Internet access and conduct sensitive online transactions privately.
- Significantly, **26 million households** - one-fifth of all households - were entirely offline.[9]

These statistics illustrate the imperative at the heart of the Council's mission: to address these gaps using the collective will and support of federal agencies by removing barriers and streamlining processes to support greater broadband deployment and adoption across the country.

A primary goal of the Council has been to institutionalize broadband infrastructure and digital literacy considerations into policy-making processes across the federal government. This effort was accompanied by initiatives implemented by agencies and their partners in parallel to the formation of the Council. For example, under the ConnectED initiative, the Department of Education, FCC, and industry partners significantly upgraded the speed and quality of school and library connections. Agencies also worked aggressively to make broadband more accessible and affordable through the ConnectHome and ConnectAll initiatives. Additional information about these efforts is contained in Section 3 of this report.

Framework for Action Items

The President's initial charge to the agencies was to examine in a very short time what they could do to help support broadband deployment and adoption. The Council's efforts culminated in the release of the report in September 2015, which described 36 unique actions, with associated milestones, that agencies committed to undertake. The report outlined four key recommendations:

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[7] The current FCC definition of broadband is 25 Mbps/3 Mbps (download/upload speed) service. *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, 2016 Broadband Progress Report, 31 FCC Rcd 699, 700 (2016) (data as of December 31, 2014), https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2016-broadband-progress-report. The fixed broadband deployment data as of December 31, 2015 are available at https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477.

[8] *Id.*

[9] Lewis, Maureen, NTIA, "Digitally Unconnected in the U.S.: Who's Not Online and Why?" September 28, 2016, https://ntia.doc.gov/blog/2016/digitally-unconnected-us-who-s-not-online-and-why.

1. Modernize federal programs to expand program support for broadband investments.
2. Empower communities with tools and resources to attract broadband investment and promote meaningful use.
3. Promote increased broadband deployment and competition through expanded access to federal assets.
4. Improve data collection, analysis, and research on broadband.

Agencies also recognized the importance of continuing to consider broadband as a key ingredient to the success of their programs, and agreed to a set of Guiding Principles (see Appendix B). In this report, we provide an update on agency actions and plans to continue interagency collaboration efforts to advance broadband in America.

2. Progress Towards Action Items

Status of Report Action Items

Of the 36 original action items in the report, 15 have been completed (see table below). Most others have seen significant progress. Where possible, information about direct impact is included below. We expect more impacts to become apparent over time as these policies are fully implemented and communities receive the benefits of these agency actions.

Action Items by Agency Completed as of December 2016	
Appalachian Regional Commission (ARC): • Focus technical assistance on broadband deployment in Appalachia	ARC released the Appalachian Regional Commission Broadband Planning Primer and Toolkit to help rural Appalachian communities expand broadband service. ARC produced the Broadband Planning Primer and Toolkit in cooperation with the North Carolina Broadband Infrastructure Office. See https://www.arc.gov/images/programs/telecom/ARCBroadbandPlanningPrimerToolkit.pdf. ARC also included broadband deployment as one of four main focus areas for the new POWER initiative, which helps encourage economic development and revitalization in areas of Appalachia negatively impacted by the downturn in the coal industry.
National Science Foundation (NSF): • Pilot new applications that leverage advanced broadband networks	NSF broadened the US Ignite solicitation in FY 2016 to include DOJ's Access to Justice (ATJ). See https://www.nsf.gov/pubs/2016/nsf16553/nsf16553.htm. ATJ engaged with NSF on the merit review of proposals submitted in response to the US Ignite solicitation. Although no ATJ-related proposals were selected for funding, ATJ will work with NSF staff on strategies to incorporate access to justice technology solutions going forward.
U.S. Department of Agriculture (USDA): • Expand broadband eligibility for Rural Business Loan Guarantee Program • Expand fiber eligibility for Rural Utilities Service	**Rural Development/Rural Business Cooperative Service Business and Industry Guaranteed Loan Programs (RBS):** RBS issued guidance stating that broadband is an eligible infrastructure expense: • The initiative is addressed in two separate unnumbered letters. The first unnumbered letter, dated April 20, 2016, Rural Business-Cooperative Service Special Initiatives Definitions and Proper Coding in the Guaranteed Loan System (GLS), informed

(RUS) Electric Program	all Business and Industry (B&I) personnel about the proper coding required for broadband-related projects in the GLS database. See http://www.rd.usda.gov/publications/regulations-guidelines/unnumbered-letters. • The second unnumbered letter, dated April 29, 2016, B&I Guaranteed Loan Program for Purposes of Broadband Deployment, was distributed to provide explanation to all staff about the program, and procedures to follow with broadband projects. See http://www.rd.usda.gov/publications/regulations-guidelines/unnumbered-letters. **Rural Electric Program:** RUS issued guidance to its legacy electric borrowers and other stakeholders that fiber projects supporting smart grid and communications facilities for energy management are an eligible infrastructure expense and is working on funding requirements. See http://www.rd.usda.gov/about-rd/agencies/rural-utilities-service and http://www.rd.usda.gov/files/UEP_RUSSmartGrid_BOC.pdf.
U.S. Department of Commerce (DOC): • Highlight broadband eligibility for Economic Development Assistance (EDA) • Offer best practices and technical assistance for communities seeking to expand broadband through the BroadbandUSA program (NTIA)	**Economic Development Administration:** EDA published guidelines encouraging broadband considerations within EDA-funded Comprehensive Economic Development Strategies (CEDS). The guidelines encourage regions to incorporate broadband investments (if applicable) into their regional economic development strategies along with other assets such as transportation infrastructure, energy, land use, etc. See https://www.eda.gov/ceds/files/CEDS-Content-Guidelines-full.pdf. **BroadbandUSA:** NTIA's BroadbandUSA program is helping communities nationwide ensure they have the broadband infrastructure, digitally literate workforce, and engaged citizens to thrive in the 21st century digital economy. To date, BroadbandUSA has: • Provided direct (one-to-one) technical assistance to 129 communities in 36 states, including local, state, and federal officials; non-profit and for-profit entities; tribes; Co-Ops; K-12 schools; and an institution of higher education; • Hosted four regional events focusing on connecting more than 800 community leaders with peers, industry experts, and timely

	guidance to advance their broadband efforts; • Worked with federal, state, and local officials to better integrate broadband issues into policy and program efforts; • Engaged with government, community, and industry leaders to build self-assessment tools that will improve the quality of broadband-related data, enhance understanding of community readiness for broadband, and provide access to federal broadband programs, policies, and resources; • Developed publications, fact sheets, and brochures to raise awareness of BroadbandUSA's services and promote understanding of broadband's critical role in community prosperity. Examples include: o "Guide to Federal Funding of Broadband Projects." See http://www2.ntia.doc.gov/files/broadband_fed_funding_guide.pdf. o "Planning a Community Broadband Roadmap: A Toolkit for Local and Tribal Governments." See http://www2.ntia.doc.gov/files/ntia_planning_community_broadband_roadmap_051616.pdf.
U.S. Department of Health and Human Services (HHS): • Issue $25 million in new grants to advance Health Centers' use of health IT • In partnership with other agencies, launch series of national connectivity workshops for community health organizations	**Issue grants to advance use of health IT:** In July 2016, the HHS Health Resources and Services Administration (HRSA) announced more than $36 million in new grants for 50 Health Center Controlled Networks in 41 states and Puerto Rico to adopt health IT. See http://bphc.hrsa.gov/programopportunities/fundingopportunities/hccn/index.html. **Launch national connectivity workshops:** HHS, USDA, and ARC have hosted a number of Rural Health IT workshops to link rural health providers to financing and broadband assistance programs. The goal of this work is to encourage participants to, among other things, develop plans and complete applications to secure upgraded broadband connectivity. HHS and USDA held workshops in 1) Kalispell, Montana; 2) Clarksville, Tennessee; 3) Hazard, Kentucky; 4) Winston-Salem, North Carolina; 5) Cambridge, Maryland; 6) Chillicothe, Ohio; 7) Lacey, Washington; 8) Cheney, Washington; and 9) South Boston, Virginia. See https://www.healthit.gov/buzz-blog/uncategorized/happy-national-rural-health-day-learn-onc-helping-rural-providers-connected/. For more on the impact of these and other workshops, see the joint HHS and USDA report card on the partnership in support of rural

	health IT between FY 2012-2016: http://blogs.usda.gov/2016/11/17/hhs-and-usda-collaborating-since-2012-to-improve-local-access-to-healthcare-in-rural-america/#more-67446.
U.S. Department of Housing and Urban Development (HUD): • Expand broadband eligibility for community development and housing • Clarify broadband eligibility in the Indian Community Development Block Grant Program • Fund educational navigators in HUD-assisted housing to facilitate broadband adoption • Establish broadband connectivity standards for housing construction • Amend Consolidated Plan regulations to include broadband	**Broadband Eligibility for Community Development and Housing:** In January 2016, the Office of Community Planning & Development issued guidance in the form of "Frequently Asked Questions" to HOME, Housing Trust Fund, and Community Development Block Grant recipients about how these program funds could be used for broadband installation infrastructure and service delivery. • View the HTF Broadband Infrastructure FAQs: https://www.hudexchange.info/resources/documents/HTF-FAQs.pdf?utm_source=HUD+Exchange+Mailing+List&utm_campaign=b9bfaa191f-HOME+and+HTF+Broadband+FAQs-12%2F31%2F15&utm_medium=email&utm_term=0_f32b935a5f-b9bfaa191f-19226865. • View the HOME Broadband Infrastructure FAQs: https://www.hudexchange.info/onecpd/assets/File/HOME-FAQs-Broadband.pdf?utm_source=HUD+Exchange+Mailing+List&utm_campaign=b9bfaa191f-HOME+and+HTF+Broadband+FAQs-12%2F31%2F15&utm_medium=email&utm_term=0_f32b935a5f-b9bfaa191f-19226865. • View the CDBG Broadband Infrastructure FAQs: https://www.hudexchange.info/resource/4891/cdbg-broadband-infrastructure-faqs/?utm_source=HUD+Exchange+Mailing+List&utm_campaign=cb119cb45e-HUD+CDBG+Broadband+Infrastr+FAQs&utm_medium=email&utm_term=0_f32b935a5f-cb119cb45e-19223233. **Indian Community Development Block Grant Program:** On February 24, 2016, the Office of Native American Programs (ONAP) issued program guidance to clarify broadband eligibility in the Indian Community Development Block Grant, Indian Housing Block Grant, and Title VI Loan Guarantee programs. See http://portal.hud.gov/hudportal/documents/huddoc?id=BroadbandGuidance.pdf. **Fund Educational Navigators:** The Notice of Funding Availability (NOFA) was published on July 29, 2016. The funding will allow a small number of Public Housing

	Authorities to hire education navigators whose primary responsibility will be to assist public housing residents access the support they need to apply to college. The NOFA underwent many iterations prior to publication. The final NOFA does not expressly include broadband adoption as one of its primary goals; however, the nature of the work will entail referring residents to online resources and ensuring that they have access to the Internet in order to access those resources. On December 9, 2016, HUD announced the nine Public Housing Authority grantees for these funds. The list of grantees and project summaries are available here: https://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2016/HUDNo_16-187. **Establish broadband connectivity standards for housing construction:** On December 20, 2016, HUD published a final rule: "Narrowing the Digital Divide Through Installation of Broadband Infrastructure in HUD-Funded New Construction and Substantial Rehabilitation of Multifamily Rental Housing." In this final rule, HUD requires installation of broadband infrastructure at the time of new construction or substantial rehabilitation of multifamily rental housing that is funded or supported by HUD. The rule, however, recognizes that installation of broadband infrastructure may not be feasible for all new construction or substantial rehabilitation, and, therefore, it allows limited exceptions to the installation requirements. See https://www.federalregister.gov/documents/2016/12/20/2016-30708/narrowing-the-digital-divide-through-installation-of-broadband-infrastructure-in-hud-funded-new. **Amend Consolidated Plan regulations to include broadband:** On December 16, 2016, HUD published a final rule "Modernizing HUD's Consolidated Planning Process To Narrow the Digital Divide and Increase Resilience to Natural Hazards." This rule amends HUD's Consolidated Plan regulations to require that jurisdictions consider how to address the need for broadband access for low- and moderate-income residents in the communities they serve. The rule requires that states and localities that submit a Consolidated Plan describe the broadband access in housing occupied by low- and moderate-income households. If low-income residents in the communities do not have such access, states and jurisdictions must consider providing broadband access to these residents in their

	decisions on how to invest HUD funds. See https://www.federalregister.gov/documents/2016/12/16/2016-30421/modernizing-huds-consolidated-planning-process-to-narrow-the-digital-divide-and-increase-resilience.
U.S. Department of Justice (DOJ): • Highlight broadband eligibility for Justice Assistance Grant Program	DOJ Office of Justice Programs (OJP) issued guidance in 3Q 2016 clarifying that the Justice Assistance Grant (JAG) program allows funding for broadband deployment and adoption related to criminal justice activities. Approximately 1,100 state, local, and tribal jurisdictions receive annual JAG formula funding. This program represents an estimated $370 million in FY16 funding. See https://www.bja.gov/Funding/JAGState16.pdf. OJP will try to ascertain whether funding in the seven main program areas was used to facilitate broadband deployment or adoption.
U.S. Department of Treasury (UST): • Clarify broadband eligibility for New Market Tax Credits	The CDFI Fund updated the Frequently Asked Questions (FAQs) included in application materials to clarify that broadband infrastructure and related activities are eligible for the New Market Tax Credit provided they meet certain IRS Regulations. See https://www.cdfifund.gov/Documents/2015%20NMTC%20Application%20QA%20FINAL.pdf.

Action Items in Progress

The chart below includes the action items that are still in progress, listed by Agency.

Action Items by Agency in progress as of December 2016	
DOC (NTIA): • Provide a one-stop portal to access information about federal broadband programs • Convene stakeholders to design and launch a community connectivity index	**One-Stop Portal:** NTIA's BroadbandUSA website will be relaunched in January 2017, and it will include initial information provided by federal agencies to address this action item, including funding information and resources. External stakeholders have expressed great interest in this "one-stop portal" as a way to help communities easily identify available federal resources as they seek to expand access to broadband. The portal is intended to help communities find broadband-related policy guidance, key agency points-of-contact, and best practices. The portal will also provide status updates on any progress agencies have made toward the action items in the Council's report.

	NTIA will update the portal as it continues to receive inputs from agencies. *[Original due date 4QFY16]* **Community Connectivity Initiative:** BroadbandUSA has developed, and is beta testing, its Community Connectivity Initiative (Initiative) – an online tool that provides a planning and assessment framework as well as an assessment tool that includes localized data on broadband. NTIA launched an intensive engagement process for the Initiative, including dozens of meetings and webinars and sponsored a two-day workshop for a detailed review of draft tools and input from over 300 communities and multiple organizations (e.g., National League of Cities, National Association of Counties, International City/County Managers Association, American Library Association, State of Maine, and State of Washington). The objective of the Initiative is to support communities working to accelerate broadband access, improve digital inclusion, strengthen policies, and support local community priorities. See https://www.ntia.doc.gov/blog/2016/ntia-launches-community-connectivity-initiative-backing-major-community-groups. *[Original due date 1QFY17]*
General Services Administration (GSA): ○ Modernize government donation, excess, and surplus program ○ Publish consumer guides on the benefits of broadband targeted at key communities	**Modernize government donation, excess, and surplus program:** Federal agencies with underlying Computers for Learning (CFL) authorities or program responsibilities will develop an action plan based on the interagency team's findings to improve the management of the CFL program, including updates to materials and accessibility information, guidelines, coordination of resources and activities, and tracking of transfers to maximize program potential. *[Original due date 3QFY16]* **Publish consumer guides:** To date, GSA and BroadbandUSA have discussed several products that are currently under review to determine if the content is appropriate for GSA's Consumer Guides audiences. Once the products have been finalized, these will be posted online. As budgets permit, online content will be converted to bilingual print copies for dissemination.

	[Original due date 4QFY16]
Institute of Museum and Library Services (IMLS): • Provide libraries with tools to assess and manage broadband networks • Offer technical assistance for library broadband connectivity expansions	**Provide libraries with tools:** IMLS funded the Toward Gigabit Libraries pilot program targeted to small, rural, and tribal libraries that have limited information technology (IT) support available to them, in order to improve and evolve library staff understanding and interaction with their broadband connection and services. Pilot states for the program are Alaska, Kansas, Nebraska, Oklahoma, and Washington. A draft of the Gigabit Libraries Toolkit has been created and is currently undergoing testing. See https://www.imls.gov/grants/awarded/re-00-15-0110-15. *[Original due date 2QFY17]* **Offer technical assistance to libraries:** IMLS awarded a grant to the Chief Officers of State Library Agencies (COSLA) to help libraries take full advantage of the opportunities for transformation provided by the FCC's E-rate Modernization Orders. The Georgia Public Library Service, acting in conjunction with the American Library Association's E-rate Task Force, will implement a clearinghouse for best-of-breed information, documentation, and best practices to serve as an information resource and to stimulate a national community of practice around libraries and E-rate. See https://www.imls.gov/grants/awarded/re-00-15-0111-15. *[Original due date 2QFY16]*
Joint Agency action to promote "Dig Once" policies. (Participating agencies include DOT, DOI, EPA, GSA, USDA, DOC, and HUD)	EPA issued guidance from its Deputy Administrator to the directors of its headquarters and regional offices to remind them that, where not prohibited by law or court mandates, their programs, contractors, states, and tribal partners should allow entities building out broadband networks the use of open trenches or infrastructure created under EPA auspices to lay fiber optic cable or otherwise expand broadband capabilities (Appendix C). DOT encouraged state DOTs to take specific actions to coordinate highway construction projects intended to minimize cuts on highway projects and expand broadband nationally. The recommendations included: • Include broadband stakeholders and service providers in the transportation planning and project development process. • If applicable, coordinate transportation and highway construction plans with other statewide telecommunication plans, such as statewide Interoperability Communication Plans, Fusion Center

	Plans, and state Next Generation 911 plans. • Coordinate with utilities to minimize the number and scale of repeated excavations that involve the installation of broadband in the public rights of way (ROW). *[Original due date 4QFY16]*
National Economic Council (NEC)/Office of Science and Technology Policy (OSTP)/Office of Management and Budget (OMB): ○ Create accessible open data inventory of infrastructure assets that can support broadband	NEC, OSTP, and OMB held initial discussions to determine whether open source models exist for data templates to fulfill this action item. A sustainable funding mechanism for this item has not been identified. However, OMB, as lead agency for the Federal Open Data working group, will explore options to solicit and maintain a collection of broadband-related data assets on Data.gov or other federal data sites to complete this action item. Agencies in supporting roles for this effort have made progress toward this action item, including DOT. The DOT website has been updated to provide seamless and transparent access into DOT activities, which includes a number of broadband initiatives. See https://www.transportation.gov/. DHS is currently researching the applicability of propagation and coverage mapping software for this effort. With approval from participating Departments and Agencies, telecommunications site information could be included in modeling constructs for wireless broadband communications coverage. *[Original due date 2QFY16]*
NSF and NTIA, with participation from ED, HUD, DHS, GSA, HHS, IMLS: ○ Develop a national broadband research agenda	NTIA and NSF are co-leading the development of a cross-agency National Broadband Research Agenda (NBRA) to identify research priorities to advance broadband and coordinate broadband-related research across federal agencies. To aid in the development of NBRA, NSF funded a community research visioning workshop in June 2016, which brought together experts from academia, industry, and government to discuss the current state of research and associated data for broadband connectivity, and identify compelling broadband research challenges/opportunities going forward. The workshop report appears at https://broadband.ist.psu.edu/. Additionally, NTIA and NSF issued a public Request for Comments to solicit external stakeholder input; over 40 responses from stakeholders were received. See https://ntia.doc.gov/federal-register-notice/2016/comments-national-broadband-research-agenda. Under the federal Networking & Information Technology Research &

	Development (NITRD) program, NSF and NTIA are co-leading a multi-agency task force (including NITRD member agencies as well as non-members) focused on drafting the NBRA. The task force anticipates issuing the NBRA in January 2017. *[Original due date 4QFY16]*
USDA: • Update guidance for the Rural Development Community Facility Program • Expand broadband eligibility for RUS Telecommunications Program	**Rural Development Community Facility Program:** RUS will continue to collaborate with Community Facilities (CF) to share expertise to develop the policy and plan for addressing changes to funding parameters. This effort will be done in conjunction with legal reviews and solicitation of comments from CF stakeholders. Because of Congressionally-mandated and regulatory restrictions on existing Rural Development broadband funding, USDA must ensure no duplication of funding. Next steps will include drafting a regulation with requirements for funding broadband service, with a focus on developing additional application requirements. These new requirements will require approval under the Paperwork Reduction Act. *[Original due date 4QFY16]* **RUS Telecommunications Program:** Without a Congressional amendment to Title II of the statute, RUS can only offer the program to current Independent Local Exchange Carriers (ILECs). Loan demand for the Traditional Infrastructure program dramatically increased in FY 2016 into FY 2017. With the end of the American Recovery and Reinvestment Act (ARRA) Broadband Initiative Program (BIP) and the release of the FCC's Connect America Fund (CAF) options, most ILECs now have a better sense of where to invest in improved broadband service moving forward. RUS intends to discuss a potential legislative change with the incoming Congress. *[Original due date 4QFY16]*
U.S. Department of Education (ED): ○ Expand technology-enabled learning practices to new partner Agencies ○ Compile and create national data on broadband in	**Expand Digital Learning initiative partnerships with federal agencies:** ED's digital learning initiatives provide school districts with technical assistance and support to help them maximize digital learning opportunities and help them move toward preparing students for academic, professional, and personal success. As of November 2016, over 3,000 school districts and 25 states have committed to making the transition to digital learning. Web

schools	resources include: • The Future Ready dashboard, a free, interactive planning tool, updated on a regular basis, provides ongoing, job-embedded opportunities for district teams to personalize learning for all students as well as plans for personalized professional development for teachers. See https://dashboard.futurereadyschools.org/. • The Future Ready Leaders project provides a systematic review of research and a personalized professional development playlist for district leaders, generated from 50 short, high-quality videos reflecting research-based practices. See http://tech.ed.gov/leaders/. • "Future Ready Schools: Building Technology Infrastructure for Learning," a guide for district leaders to reference for both technical and policy guidance when making district-wide technology infrastructure investments. See http://tech.ed.gov/futureready/infrastructure/. • The National Educational Technology Plan, the nation's flagship education technology policy resource, providing over 50 practical examples as well as specific recommendations for transitioning to digital learning at scale. See http://tech.ed.gov/netp. • The #GoOpen initiative, which encourages states, school districts, and educators to use free, openly licensed educational materials. See http://tech.ed.gov/open. • Story engine stories that highlight best practices in education technology, including broadband and network infrastructure. See http://tech.ed.gov/stories. In addition, digital learning coalition partners lead regular summits and workshops for Superintendents who have made a commitment to digital learning and their district leadership teams. 1QFY16 summits were held in Seattle, Boston, and Kansas City with workshops in Washington DC. ED-HUD initiatives include the development of a ConnectHome Playbook to help public housing authorities partner and build relationships with school districts around home connectivity initiatives. ED is working to build relationships with the Department of the Interior and the Department of Labor to further develop cross-agency programs. *[Original due date 1QFY16]*

	Compile and create national data on broadband in schools: The Office of Educational Technology requested funding in its FY17 budget to conduct school broadband surveys and is awaiting response. In addition, the Office of Educational Technology has engaged the Office for Civil Rights (OCR) to discuss the possibility of adding a key broadband question to their biennial Civil Rights Data Collection (CRDC) survey. This question is included in the OCR survey proposal that is currently out for public comment. Since this survey is federally mandated, it would provide valuable, though limited, information about broadband availability in American schools. Two external organizations, CoSN (the Consortium for School Networking) and Education Superhighway have collected broadband data. CoSN's data is based on an annual survey of school district technology directors. Education Superhighway uses data from E-Rate applications and other state and local sources to gather and report data about school connectivity. *[Original due date 3QFY17]*
U.S. Department of Interior (DOI): • Conduct a Native American summit on broadband in Indian Country • Launch an interagency tribal schools technology initiative • Expand utilization of towers on tribal and rural lands	**Native American summit on broadband:** In November 2015, DOI hosted a listening session to begin the process of creating the agenda for the summit. A planning team made up of DOI, USDA, NTIA, FirstNet, and the FCC developed an agenda and outreach plan and identified potential participants for a tribal summit. Budget constraints delayed the initial target date for the Summit. Agencies are looking to convene during the early part of 2017. *[Original due date 4QFY16]* **Launch interagency tribal schools technology initiative:** The Administration has prioritized increasing broadband capabilities across Indian Country. As part of ConnectED, an initiative designed to connect schools and libraries to the digital age, the FCC's E-rate program provided broadband, Wi-Fi, and telecommunications funding to 245 tribal schools serving over 60,000 students and 31 tribal libraries last funding year alone. The President's Budget proposed significant investments in education information technology to enhance broadband and digital access for students at Bureau of Indian Education (BIE)-funded schools. Additionally, the White House Council on Native American Affairs (WHCNAA), which is based out of DOI, coordinated with OMB over the past year to lead an interagency initiative on creating metrics

	focused on Native youth. See https://www.whitehouse.gov/blog/2016/09/26/using-evidence-guide-better-serve-native-youth. One of the focus areas for the metrics was "Increasing Access to the Internet." This effort involved DOI, USDA, and HUD. One notable deliverable from this initiative was that for low-income rental units of the Choctaw Nation with school-aged children (K-12), as part of ConnectHome efforts, HUD and USDA connected 83 HUD-funded rental units to high-speed Internet. Also, as a part of this initiative, DOI/BIA is striving to upgrade a number of BIE schools to the modified State Education Technology Directors Association (SETDA) standard of 10Mbps. The goal is to complete 67 schools in FY 2016 and 66 schools in FY 2017 for a total of 133 schools. DOI is awaiting updated numbers. *[Original due date 4QFY16]* **Expand utilization of towers on tribal and rural lands:** DOI is expanding its current leasing posture at the Bureau level, predominantly with BLM and is actively seeking partner engagement through its Radio Executive Steering Committee. Current procedures can be found at https://www.blm.gov/wo/st/en/prog/more/lands/communication_sites.html. Semi-annual meetings will be scheduled during Q2 FY2017 timeframe. *[Original due date 2QFY17]*
DOI/USDA: ○ Explore strategies to create efficiency and consistency in Section 106 review for broadband projects	A Section 106 Working Group was formed consisting of members of several Departments, including DOI and USDA, to address this action item. They have completed a draft Program Comment document for Telecommunications Projects on Federal Land. DHS, through the Accelerating Broadband Infrastructure Deployment Working Group, formally submitted the document to the Advisory Council on Historic Preservation (ACHP) on October 31, 2016. Next steps for the Program Comment are an internal review by ACHP, and provision of a revised document for formal consultation reviews by state and tribal historic preservation officers, as well as telecommunications industry representatives. Once the formal consultation process has been completed, ACHP will adjudicate comments as needed, and will release an approved document for Land Management Agency (LMA) and Property Management Agency (PMA) use. At this time, ACHP has not set a schedule for the release

	of the final document. The Program Comment establishes best practices for a set of common telecommunications infrastructure activities, such as collocation on existing wireless towers, burying telecommunications cable in existing road rights-of-way, and installing aerial telecommunications cable, that would typically not result in adverse effects on historic properties. Please refer to the DHS and GSA update entry in Section 3 of this report (Additional Agency Actions) for additional information on the Program Comment document. *[Original due date 2QFY16]*
U.S. Department of Labor (DOL): • Expand broadband eligibility for One-stops and Job Centers • Expand technology-based job training in tribal communities	**Issue guidance for One-stops and Job Centers:** The Employment and Training Administration (ETA) is in the process of issuing guidance on infrastructure costs and program operations, with both expected to be released in 2QFY17. The Departments of Labor and Education made the state Workforce Innovation and Opportunity Act (WIOA) Multi-Year Strategic Plans available for public access in mid-December 2016. These plans can be searched for state activities and initiatives that may benefit from technology advances and broadband support. See http://www2.ed.gov/about/offices/list/osers/rsa/wioa/state-plans/index.html. *[Original due date 2QFY16]* **Expand technology-based job training in tribal communities:** ETA will post information on RUS Distance Learning and Telemedicine (DLT) and Community Connect grant programs on two websites for the Indian and Native American Program grantees in January 2017. The descriptions will be posted on ETA's official website (www.doleta.gov/dinap) as well as its Community of Practice (https://ina.workforcegps.org/) to reach the widest possible audience in the nation's Native American communities. *[Original due date 2QFY16]*
U.S. Small Business Administration (SBA): ○ Develop and deploy	To promote innovation and technology within the entrepreneurial ecosystem and support the Broadband Opportunity Council, the U.S. Small Business Administration created the Small Business

new digital empowerment training for small businesses	Technology Coalition. See https://www.sba.gov/techcoalition. The Small Business Technology Coalition is committed to helping small businesses leverage technology as a core driver of growth and differentiation. That means increasing digital education and training to Launch, Grow, Manage, and Win their business. The Small Business Technology Coalition is a public-private partnership comprised of 22 leading technology firms. These firms include: Amazon, Bench, Box, Canvas, Cyber Security Alliance, Dash Data, Dun & Bradstreet, Expensify, Facebook, Google, Gusto, Intuit, Legal Zoom, LinkedIn, Microsoft, Nerdwallet, Paychex, Salesforce, Square, Thumbtack, Yelp, and Zenefits. The Small Business Technology Coalition website contains a number of toolkits provided by partners which inform key stakeholders on ways to leverage connectivity within a small business. See https://www.sba.gov/techcoalition/launch?leavingSBA=https://www.zenefits.com/webinars/thought-leadership-webinar-103/. To encourage small businesses to utilize the resources offered by the SBA's Small Business Technology Coalition, a link to the Coalition's website will be provided on the BroadbandUSA portal. *[Original due date 3QFY16]*
U.S. Department of Transportation (DOT): ○ Issue policy guidance to leverage highway rights of way for broadband	DOT's Federal Highway Administration (FHWA) is developing draft broadband guidance that will highlight the recommendations included in the FHWA Administrator's letter to state DOTs. This task is behind schedule and is on track to be ready for final guidance and outreach initiatives to be completed by 3QFY17. *[Original due date 1QFY17]*

3. Additional Agency Actions

Beyond the original 36 action items outlined by agencies in the August 2015 report, other work described below is also supporting the mission of the Council and the Guiding Principles. A summary of public announcements and outreach events conducted by agencies since the report was issued is included in Appendix D.

New Agency Actions, Programs, and Funding Opportunities:	
ARC and EDA	POWER Initiative: ARC/EDA announced $65.8 million in funding for communities negatively impacted by changes in the coal economy. Communities can apply for resources from ARC and EDA to develop new strategies for economic growth and worker advancement. See http://www.arc.gov/news/article.asp?ARTICLE_ID=558.
DHS and GSA	The Accelerating Broadband Infrastructure Deployment Working Group (Working Group), established by Executive Order 13616, has developed a Section 106 Historic Preservation Program Comment. The Program Comment, pursuant to Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. §§ 300101 et seq.) and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800) will establish best practices for a set of common telecommunications infrastructure activities, such as collocation on existing wireless towers, burying telecommunications cable in existing road rights of way, and installing aerial telecommunications cable, that would typically not result in adverse effects on historical properties. Multiple agencies and bureaus, including DHS; USDA's Forest Service (USFS) and RUS; DOI's Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), and National Parks Service (NPS); and the FCC have been working together to draft the Program Comment since 2015. Except for the FCC, these Departments and Agencies plan to adopt the Program Comment if it is approved by the Advisory Council on Historic Preservation (ACHP). Provisions have also been made within the Program Comment to allow for adoption by additional Federal Departments and Agencies. In addition, DHS has decided to adopt categorical exclusions utilized by RUS for activities pertaining to the construction, deployment, and maintenance of telecommunications infrastructure, including broadband technology. These categorical exclusions were identified for adoption by DHS in response to Executive Order 13616 and in coordination with RUS. The Working Group has collaborated to develop a crosswalk of existing categorical exclusions for telecommunications/broadband projects across

	several key Federal Departments and Agencies. The purpose of this crosswalk is to ease the permitting process for applicants and the Federal Agencies themselves, especially for projects with multi-Agency jurisdiction, by presenting comparable and compatible categorical exclusion authorities across multiple agencies in one spot thereby allowing the applicant and the approving Agency to enact multiple pre-approved efficiencies at once. Federal Department and Agencies contributing categorical exclusion authorities in the crosswalk so far include DHS, RUS, USFS, and BLM. For further information regarding the Accelerating Broadband Infrastructure Deployment Executive Order, and the associated Final report, see the Executive Order: https://www.whitehouse.gov/the-press-office/2012/06/14/executive-order-accelerating-broadband-infrastructure-deployment. The Report can be found at the following link: https://www.whitehouse.gov/sites/default/files/microsites/ostp/broadband_eo_implementation.pdf. Going forward, the Working Group will function as a new workstream of the broadband interagency working group, and will focus on federal broadband permitting issues. The workstream will be led by DHS, and it will support broadband deployment by ensuring a coordinated and consistent approach in streamlining and implementing agency procedures, requirements, and policies related to access to federal lands, buildings, rights of way, federally-assisted highways, and tribal lands.
DOC/NTIA	NTIA's programs and policymaking focus largely on expanding broadband Internet access and adoption in America, expanding the use of spectrum by all users, and ensuring that the Internet remains an engine for continued innovation and economic growth. Since the Council's report was issued, the Department of Commerce (NTIA) has supported broadband deployment and adoption through a number of vehicles: • Created the Digital Economy Board of Advisors to enable the Department to have a mechanism for receiving regular advice from leaders in industry, academia, and civil society. See https://www.ntia.doc.gov/digital-economy. • Launched Data Central, a new easy-to-use source for NTIA data and analysis on computer and Internet use. Data Central includes the Digital Nation blog, where NTIA reports its latest research, the Data Explorer data visualization tool, and a Research Center with complete datasets and documentation. See https://ntia.doc.gov/data, https://ntia.doc.gov/blog/2015/introducing-ntia-data-central, and https://ntia.doc.gov/data/digital-nation-data-explorer. • Published a report summarizing the major initiatives of the Commerce Department over the course of the past seven years in pursuit of a more

	inclusive, dynamic, and productive digital economy for the American people and the users of digital technologies around the world. See https://www.ntia.doc.gov/report/2016/enabling-growth-and-innovation-digital-economy.
	• BroadbandUSA is also supporting communities as they develop "smart city" strategies by:
	  ○ Publishing a toolkit to support the development of innovative public-private partnerships for smart cities and communities projects. "Using Partnerships to Power Smart Communities." See http://www2.ntia.doc.gov/files/smartcities-toolkit_111516_v2.pdf.
	  ○ Participating in the Smart and Connected Communities (SCC) Task Force, led by NITRD's Cyber Physical Systems subcommittee.

DOI	BIA published updated rules for access to rights-of-way (ROW) on Indian lands, including the deployment of communications infrastructure. See http://www.gpo.gov/fdsys/pkg/FR-2015-11-19/pdf/2015-28548.pdf.
DOT	On October 13, 2016, DOT announced that local communities across the country will receive nearly $65 million in grants to support advanced technology transportation projects. Cities receiving funding to pursue smart city technology deployments include Pittsburgh, San Francisco, Los Angeles, Portland, and Denver. See https://www.transportation.gov/smartcity and https://www.transportation.gov/Briefing-Room/Advanced-Technology-Transportation-Projects.
EPA and USDA	EPA launched a new initiative, "Cool & Connected," in partnership with USDA, to help communities leverage investments in Internet access to create walkable, healthy, economically vibrant neighborhoods. See https://www.epa.gov/smartgrowth/cool-connected.
HUD	In July 2015, HUD launched ConnectHome, a public-private collaboration between HUD, Internet Service Providers, non-profits, and the private sector intended to expand high speed broadband to families living in HUD communities across the country. The program, initially launched as a pilot with 28 communities, offered broadband access, technical training, digital literacy programs, and devices for residents in assisted housing units. Companies participating in the original pilot program were AT&T, Cox Communications, Google Fiber, and Comcast. T-Mobile joined the program in December 2016. By December 2016, HUD households in the 28 pilot communities had received Internet service, devices, and training worth over $11 million. See http://connecthome.hud.gov/.
IMLS	• Awarded a project grant to San Jose State University's School of Information which will support "Libraries Leading in Digital Inclusion and Disaster Response via TV White Space Wireless Connections." See https://www.imls.gov/grants/awarded/lg-70-16-0114-16.

	• Through a planning grant from the IMLS, Brooklyn Public Library will pilot BKLYN Link, a community-driven mesh network that will provide free broadband access and a technology-based fellowship program for young adults ages 18-24. See https://www.imls.gov/grants/awarded/lg-72-16-0130-16. • With the goal of working toward resolving issues of Internet and computer access for low-income students, the Springfield Technical Community College Library will launch the STCC to Go program through a grant from IMLS. This grant allows the STCC Library to lend Chromebooks and mobile Internet hotspots to students. See https://www.imls.gov/grants/awarded/sp-02-16-0004-16. • IMLS has entered into a Cooperative Agreement with the PAST Foundation to create and pilot the Digital Inclusion Corps, through a program with the National Digital Inclusion Alliance (NDIA-PAST). The project will explore the feasibility of having local digital literacy volunteers connected nationally to a supportive peer network working towards increased digital inclusion in the United States. NDIA-PAST will work with IMLS to both provide needed digital literacy training staff in five rural or tribal regions and address the national need for a repository of digital literacy training materials. Partnering with IMLS, three state library agencies, and two museum organizations, NDIA will enter into arrangements and guide five part-time Digital Inclusion Corps Members. The Digital Inclusion Corps Members will teach digital literacy, blog their experiences, and participate in the gathering and annotating of digital literacy materials for a national repository.
NSF	• NSF launched the Advanced Wireless Research Initiative (http://nsf.gov/cise/advancedwireless/), pledging more than $400 million in private and public investments to support fundamental wireless communication research and infrastructure. A key component of the initiative is the "Platforms for Advanced Wireless Research" (PAWR) program (https://www.nsf.gov/pubs/2016/nsf16585/nsf16585.htm), which will support, over the next seven years, a set of city-scale testing platforms for advanced wireless research, allowing at-scale experimentation by academic researchers and industry that would not be possible in lab environments. PAWR will be supported through public and private partners, bringing together $50 million in funding from NSF with $50 million in cash and in-kind contributions from a newly established industry consortium comprising leading networking vendors like Juniper and Interdigital; device manufacturers such as Nokia-Bell Labs, Samsung, and Qualcomm; and wireless carriers AT&T, Verizon, T-Mobile, and Sprint. • NSF recently launched the Smart & Connected Communities (S&CC)

	program solicitation (https://www.nsf.gov/pubs/2016/nsf16610/nsf16610.htm), which aims to support strongly interdisciplinary, integrative research and research capacity-building activities that will improve understanding of smart and connected communities and lead to discoveries that enable sustainable change to enhance community functioning. NSF investments in S&CC are predicated on innovations in advanced networks, including through the US Ignite initiative.
Treasury	Published new Community Reinvestment Act (CRA) Q&As that contain language specifically identifying certain types of rural broadband initiatives as qualifying for CRA community development consideration. See http://www.occ.gov/news-issuances/news-releases/2016/nr-ia-2016-82a.pdf.
U.S. Department of Defense (DoD)	In 2015, DoD funded and launched the National Spectrum Consortium (www.nationalspectrumconsortium.org), a five-year, $1.25 billion effort to collaborate with multiple government agencies, industry, and academia to identify new wireless spectrum technologies to enable greater wireless Internet, cellular, and broadband access and performance for public and private objectives. The DoD National Spectrum Consortium is currently recruiting a broad and diverse collaborative membership that includes representatives from large businesses, small businesses, non-traditional government contractors, academic research institutions, and not-for-profit organizations.
U.S. Department of Energy (DOE)	Power Marketing Administrations (PMAs) have the legal authority to enter into agreements to lease, exchange, or attach excess fiber optic cable and interested entities should check with the individual PMAs on existing/potential fiber optic cable arrangements.

4. Next Steps

The final Principals' meeting of the Council during the Obama Administration was held on November 9, 2016. During the meeting, agencies agreed that the important work of the Council should continue through an interagency working group to be jointly chaired by NTIA and RUS. Other agencies that were not part of the initial Memorandum, including the U.S. Agency for International Development, have expressed interest in joining the working group, which demonstrates the relevance and importance of this issue and the continued demand for interagency coordination and collaboration.

As noted in this progress report, agencies will continue to implement their action items. As agencies complete their action items, NTIA will post updates to the BroadbandUSA website and will coordinate with the agencies to make information available via other public events and announcements.

Collectively, agencies have made great progress, but there is much more work to do - work that will need to continue into the future. Communities across the country are seeking additional support to address their broadband gaps. Industry stakeholders still encounter barriers to deployment due to lengthy permitting processes. While the federal government cannot address all of the needs alone, it can and must do a better job of identifying those areas where streamlining federal processes and providing federal assistance can make a real difference. The broadband interagency working group will continue to work with stakeholders to identify barriers and make real progress.

Expanding access and adoption of broadband is critical to America's economic growth and prosperity. The broadband interagency working group looks forward to continuing to work on the important task of ensuring that all Americans have access to the broadband resources they need to participate fully in the digital economy to ensure that no American is left behind.

Appendix A: Broadband Interagency Working Group

This appendix lists members of the broadband interagency working group as of the release date of this report. These individuals are available to answer questions about their Agency's participation and the status of action items. Questions about the leadership of the working group should be directed to the Co-Chairs, Doug Kinkoph (DOC) and Keith Adams (USDA).

Agency	Point(s) of Contact
Appalachian Regional Commission	Mark DeFalco, Broadband Manager, Regional Program Operations (mdefalco@arc.gov)
Department of Agriculture (USDA) -- *Co-Chair*	Keith Adams, Assistant Administrator, Telecommunications, Rural Utilities Service (Keith.Adams@wdc.usda.gov) Sami Zarour, Policy Analyst, Telecommunications, Rural Utilities Service (Sami.Zarour@wdc.usda.gov)
Department of Commerce (DOC) – *Co-Chair*	Doug Kinkoph, Associate Administrator, BroadbandUSA, NTIA (DKinkoph@ntia.doc.gov) Karen Hanson, Director, Partnerships and Interagency Affairs, BroadbandUSA, NTIA (KHanson@ntia.doc.gov)
Department of Defense (DoD)	Jim Campion, Office of the DoD CIO, Spectrum Policy and Programs Director (james.p.campion2.civ@mail.mil)
Department of Education (ED)	Susan Bearden, Senior Future Ready Fellow, Office of Educational Technology (Susan.Bearden@ed.gov)
Department of Energy (DOE)	Jonnie Bradley, Management Analyst (Jonnie.Bradley@hq.doe.gov)
Department of Health and Human Services (HHS)	Tom Morris, Associate Administrator for Rural Health Policy, Health Resources and Services Administration (HRSA) (tmorris@hrsa.gov) Leila Samy, Rural and Veteran Health, Office of the National Coordinator for Health IT (Leila.Samy@hhs.gov)
Department of Homeland Security (DHS)	Darrell Smith, Office of Emergency Communications (Darrell.Smith@HQ.DHS.GOV)
Department of Housing and Urban Development (HUD)	Ronald Ashford, Director of Community & Supportive Services, Office of Public Housing Investments (Ronald.T.Ashford@hud.gov) Dina Lehmann-Kim, ConnectHome Community Coordinator, Office of Public and Indian Housing (Dina.Lehmann-Kim@hud.gov)
Department of the Interior (DOI)	Stuart Ott, Chief, Enterprise Infrastructure Section, Office of the CIO (stuart_ott@ios.doi.gov)
Department of Justice (DOJ)	Caroline Holland, Chief Counsel for Competition Policy and Intergovernmental Relations (Caroline.Holland@usdoj.gov) Amy Kurren, Office of Legal Policy (amy.kurren2@usdoj.gov)
Department of Labor (DOL)	Amanda Ahlstrand, Administrator, Office of Workforce Investment, Employment and Training Administration (Ahlstrand.Amanda@dol.gov) Kevin Thompson, Workforce Analyst, Office of Workforce Investment, Employment and Training Administration (Thompson.Kevin@dol.gov)
Department of Transportation (DOT)	Ken Leuderalbert, PE, VE and Utility Program Manager, Headquarters Office of Infrastructure, Pre-Construction Group (ken.Leuderalbert@dot.gov) *[Note: Highway rights-of-way are*

	owned and operated by state departments of transportation (DOT) or the local municipality; therefore, broadband providers wishing to occupy the highway should contact the state DOT or local municipality. US DOT does not have the authority to direct such installations.]
Department of Veterans Affairs (VA)	*TBD*
Environmental Protection Agency (EPA)	Dr. Steven Fine, Ph.D., Principal Deputy Assistant Administrator and Deputy Chief Information Officer, Office of Environmental Information (fine.steven@epa.gov) Jeff Wells, Director, Office of Customer Advocacy, Policy and Portfolio Management, Chief Customer Experience Officer for OEI, Office of Environmental Information (Wells.jeffrey@epa.gov)
Federal Communications Commission (FCC)	Dana Zelman, Legal Advisor, Wireline Competition Bureau (Dana.Zelman@fcc.gov)
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Small Business Administration (SBA)	Star Wilbraham, Senior Advisor, Office of Intergovernmental Affairs (star.wilbraham@sba.gov) Matt Stevens, Manager, Office of Entrepreneurial Development - Business and Community Initiatives (matthew.stevens@sba.gov)

Appendix B: Guiding Principles

Through the Council's extensive research into agency programs, analysis of the public comments, engagement with the private sector and discussions with trade associations, research institutions, advocacy groups, and other stakeholders, the Council has elaborated on the President's guidance to further inform agencies as they translate these prescriptions into actionable policies. The Council began this task with the overarching goal to encourage or support broadband deployment, adoption and competition in ways that promote the public interest. The Council was guided by several principles for doing so:

Identify and address deployment barriers and promote interagency coordination

- **Leverage federal assets**. Federal lands, buildings, and assets are important conduits for broadband deployment and should be accessible for the promotion of broadband competition and deployment.
- **Streamline processes.** The federal government should strive for common permitting and application processes to reduce the burden on local government, state government, non-profit, and private applicants applying for federal aid and resources.
- **Collaborate and strengthen coordination.** Agencies should expand interagency coordination to minimize redundancy and remove regulatory barriers and should continue to collaborate to meet the goals established for the Council. Additionally, where appropriate, Council members should increase collaboration and coordination with state, local, and tribal governments to support their initiatives to expand broadband access and adoption.
- **Lower barriers to competition.** While regulatory power generally rests with state, local, and tribal governments and independent regulatory agencies, the federal government should provide fair and open access to government assets and processes. Such open access is designed to stimulate increased deployment and competition by lowering barriers for new market entrants and for incumbent expansions.

Encourage further public and private investment

- **Specify broadband as an eligible expenditure in federal programs.** Broadband is a critical element of community and regional infrastructure and should be an eligible expenditure and, where possible, a priority for infrastructure funding and loan programs.
- **Encourage public-private partnerships.** The deployment of broadband almost always requires collaboration between the public and private sector and often cooperation across multiple levels of government. As federal agencies shape their broadband policies, they should work closely with the private sector and state, local, and tribal governments to ensure those policies maximize overall investment in, and adoption of, broadband services.

Promote adoption and meaningful use

- **Expand outreach.** Access to affordable broadband is unevenly distributed and is impacted by both geography and income. Federal agencies should target resources toward high-need communities, e.g., communities with low connectivity or with few options for procuring high-speed broadband. For example, broadband adoption lags among seniors, low-income households, people with lower educational levels, people with disabilities, and those living in Indian country and in rural areas.

- **Increase digital literacy.** Digital literacy and fluency is increasingly integral to economic advancement and participation in American society. Agencies should incorporate increased digital literacy training and broadband adoption support into online platforms, training programs, and services.

- **Encourage meaningful use.** Access to broadband should increase access to government services, especially in rural communities or populations that may lack easy access to government resources. The federal government should be a leader in encouraging meaningful use of broadband by making services, data, and information readily accessible and regularly evaluating online accessibility and use.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 22 2016

MEMORANDUM

SUBJECT: U.S. Environmental Protection Agency Support for Broadband Opportunity Council

FROM: A. Stanley Meiburg, Acting Deputy Administrator

TO: General Counsel
Assistant Administrators
Associate Administrators
Regional Administrators
Deputy General Counsels
Deputy Assistant Administrators
Deputy Regional Administrators
Associate Assistant Administrators

About a year ago, President Obama announced his plan to promote "Broadband That Works," a public-private effort to help Americans around the nation get access to fast and affordable broadband. The following March he issued a memorandum putting in place additional policies to support this goal, and he created the Broadband Opportunity Council, focused on increasing broadband investment and adoption. That Council, on which EPA serves, issued a report last August and committed agencies to clarify policies that may affect broadband cost and access to communities. You can view the report at www.whitehouse.gov/sites/default/files/broadband_opportunity_council_report_final.pdf.

I ask for your support to implement this commitment. Better access to information, especially in underserved communities, supports our efforts to make a visible difference around the country. We want to ensure that our efforts at the EPA to protect the environment and human health work in tandem with public and private initiatives to lay fiber-optic cable or deploy wireless 4G access to citizens.

All National Program Managers should work to ensure that their program and guidance support intelligent and efficient planning around infrastructure investments. Such action includes allowing entities laying cable to take advantage of trenches opened for EPA-funded projects or projects under EPA oversight where feasible, appropriate, environmentally sound, and consistent with statutory, regulatory or court-ordered requirements.

I appreciate your efforts to ensure that agency employees, grantees, contractors and our state and tribal partners all understand that the EPA supports a "dig-once" approach to environmental and human-health infrastructure investments when projects can also support greater broadband access for the American public.

Appendix D: Public Announcements and Outreach Events

The below are events hosted by Council agencies related to their work to promote broadband.

Events held in Q1 FY2016 (10/1/15 to 12/31/15)

NTIA:

- October 15, 2015: BroadbandUSA conducted a webinar, "Cities and Surveys: Using Data to Plan your Broadband and Digital Inclusion Initiatives."
- November 1, 2015: BroadbandUSA held the California Broadband Workshop in Mountain View, CA. The workshop was a regional forum for best practices in broadband network infrastructure build-outs and digital inclusion programs. Regional policymakers, federal funders, and industry providers led the discussions.
- November 12, 2015: BroadbandUSA conducted a follow-up webinar to "Using Data to Plan Your Broadband and Digital Inclusion Initiatives."

Events held in Q2 FY2016 (1/1/16 to 3/30/16)

DHS and GSA:

- March 15, 2016: The Accelerating Broadband Infrastructure Deployment Working Group hosted an Industry Day with telecommunications industry association representatives from Wireless Infrastructure Association (WIA), National Telecommunications Cooperative Association (NTCA), Cellular Telephone Industries Association (CTIA), Association of Communications Engineers (ACE), Competitive Carriers Association (CCA), American Cable Association (ACA), Telecommunications Industry Association (TIA) and the Rural Wireless Association (RWA). All these associations participated in this one day event, in which the participants discussed issues regarding telecommunications deployment permit applications, as they relate to historic preservation Section 106 reviews of said applications.

HUD:

- January 21, 2016: Hosted a Digital Inclusion Research Meeting to discuss methodologies and data collection opportunities and challenges associated with the Connect Home projects. Participants included HUD Deputy Assistant Secretary for Research, Evaluation, and Monitoring, Calvin Johnson, along with representatives of the NYC, Boston, Austin, San Antonio and Kansas City Connect Home Projects and other federal researchers.
- February 3, 2016: Secretary Castro and Google Fiber announced the first public housing units to be connected to high speed Internet. http://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2016/HUDNo_16-013
- March 24, 2016: Comcast and HUD announced a pilot program to close the digital divide for public housing residents in Miami, Nashville, Philadelphia, and Seattle. http://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2016/HUDNo_16-037

NTIA:

- February 8, 2016: National Economic Council (NEC) and NTIA co-hosted a Connectivity Roundtable in Baltimore, in collaboration with the City of Baltimore and local civic/philanthropic leaders to help bring resources and expertise to the City regarding their broadband capacity and use.
- March 21, 2016: BroadbandUSA partnered with Next Century Cities to hold a regional broadband summit in Seattle, Washington, "Digital Northwest: A Broadband Summit for Regional Broadband Leaders." Over 200 state, local and federal officials, industry representatives, community leaders and other key stakeholders shared real-world broadband success stories and lessons learned from across the region. USDA's RUS, HUD, FCC, and NTIA representatives discussed federal funding options for broadband and other actions taken by the Council.

USDA:

- February 2-3, 2016: The Oregon Rural Development Council, in partnership with RUS, held a rural broadband workshop in Bend, Oregon. The event offered information on how to build strong rural economies using broadband for educational opportunities; improve healthcare; job creation, retention, and growth; and other efforts. Updates included current initiatives and information on planning and deployment strategies, technical assistance, and funding opportunities for rural broadband projects. The event had about 120 participants. (USDA, FCC, NTIA)
- March 23, 2016: RUS held a Broadband Seminar and Workshop in Barnwell, South Carolina. The event was held in coordination with the Southern Carolina Regional Development Alliance in the designated South Carolina Promise Zone. The workshop focused on improving broadband services and opportunities, community economic development, and successes in broadband deployments.

Events held in Q3 FY2016 (4/1/16 to 6/30/16)

HUD:

- April 14, 2016: Cox Communications announced that it is extending its Connect2Compete low-cost Internet offering to any HUD-assisted household with school-age children within Cox's 18-state service area.

USDA:

- May 30 –June 2, 2016: In collaboration with the FCC's Office of Native American Programs (ONAP), USDA conducted a tribal broadband workshop in Great Falls, MT.

NSF:

- June 16-17, 2016: NSF funded the Pennsylvania State University, Institute of Information Policy (IIP), to organize a visioning workshop with leading experts in academia, industry,

and government in Arlington, Virginia. See the details of the "Broadband 2021" workshop at https://broadband.ist.psu.edu/.

NTIA:

- July 14, 2016: BroadbandUSA's Community Connect Initiative conducted its first monthly webinar to gather input from the field. The series is continuing monthly through Q2 2017.
- August 17, 2016: BroadbandUSA initiated its monthly webinar series, Practical Broadband Conversations. These webinars feature practitioners in the field sharing ideas and lessons learned. This webinar, "The Best Laid Plans," featured plans and implementation in North Carolina and New Mexico.
- September 21, 2016: BroadbandUSA Practical Broadband Conversations webinar on Stakeholder Outreach, featuring speakers from Alabama and Wisconsin state broadband programs.

Events held in Q4 FY2016 (7/1/16 to 9/30/16)

DHS and GSA:

- September 19 - October 14, 2016: The Accelerating Broadband Infrastructure Deployment Working Group conducted nine webinars with state and tribal historic preservation officers, as well as representatives of the telecommunications industry. These webinars were utilized to facilitate informal discussions with the aforementioned representatives, and collect comments and feedback regarding the content of the draft historic preservation Section 106 Standard Treatment document.

ED:

- September 13, 2016: As part of an annual bus tour, Secretary King visited Vance Middle School, a rural school in Bristol City, TN, to highlight the educational possibilities afforded by broadband access. On that same day ED hosted a national digital event called ConnectED Day, during which coalition partners scheduled panels, webinars, blog posts, and Twitter chats around the theme of both school and home connectivity. See http://futureready.org/connected/.
- On September 28 2016, ED hosted a meeting with NACIE (National Advisory Council on Indian Education) at which ED shared several broadband and educational technology resources available for educators on tribal lands, including ConnectED; e-Rate and Lifeline modernization, Future Ready, the National Educational Technology Plan, and the Future Ready Schools Infrastructure guide.

HUD:

- July 15, 2016: Comcast announced that it is expanding eligibility to its low-cost Internet Essentials program to include HUD-assistance. As a result, an estimated total of up to 2 million HUD-assisted homes, including Public Housing, Housing Choice Voucher, and

Multifamily programs, are eligible for low-cost Internet service in Comcast's 41-state footprint.
- September 7, 2016: Secretary Castro and AT&T announced that AT&T will join ConnectHome as a national stakeholder with AT&T hosting 30 events across 15 ConnectHome pilot communities located within AT&T's 21-state wireline service area.

NEC:

- August 19, 2016: NEC, Aspen Institute and EveryoneOn co-hosted a stakeholder summit with philanthropic, local/regional government representatives, and community-based advocates to discuss strategies to achieve the goals of connecting 20 million more Americans to the Internet by 2020, a ConnectAll goal.

NTIA:

- August 31-September 1, 2016: BroadbandUSA partnered with the Montana Telecommunications Association to hold the Big Sky Broadband Workshop, including state, local, and federal officials; industry representatives, community leaders, and other key stakeholders. Discussions ranged from strategies to deploy advanced telecommunications infrastructure in rural communities to programs to reach all Americans with broadband access and skills needed to thrive in today's digital economy.
- September 21, 2016: BroadbandUSA Practical Broadband Conversations webinar on Stakeholder Outreach, featuring speakers from Alabama and Wisconsin's state broadband programs.

USDA:

- USDA: In collaboration with FCC's Office of Native American Programs (ONAP), USDA conducted tribal broadband workshops and additional coordinated outreach activities. Listed below are the dates of the workshops for the quarter:
  - August 2-4, 2016 Kenesha, WI
  - August 15-17, 2016 Bothell, WA
  - September 20-22, 2016 Flagstaff, AZ

Events held in Q1 FY2017 (10/1/16 to 12/31/16)

NTIA:

- October 19, 2016: BroadbandUSA hosted a "Practical Broadband Conversations" webinar on Digital Inclusion.
- November 16, 2016: BroadbandUSA hosted a "Practical Broadband Conversations" webinar on broadband's contributions to economic development.

Treasury:

- October 25, 2016: OCC gave a presentation on the new CRA Questions and Answers at "Bringing Broadband to Maine's Rural Communities." See http://www.ceimaine.org/wp-content/uploads/2016/10/OCC-CRA-PWI-Rural-Broadband-Slide-Deck-10716-Maine.pdf.

Events planned for Q2 FY2017 (1/1/17 to 3/31/17)

NTIA:

- January 12, 2017: BroadbandUSA will participate in a webinar hosted by National Resource Network to highlight a recent publication focused on access and digital inclusion. See http://nationalresourcenetwork.org/en/CalendarEvent/199/Webinar_Access_and_Inclusion_in_the_Digital_Age__CitytoCity_Collaboration_to_Promote_Local_Broadband.
- January 18, 2017: BroadbandUSA will host a webinar with USDA and Office of the Comptroller of the Currency to highlight accomplishments of the Broadband Opportunity Council and next steps. See http://www2.ntia.doc.gov/WEBINARS.