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Annual Report

on the

(1) Development and Expansion of Telework Initiatives

and

(2) Receipt and Expenditure of Federal Moneys Related to Broadband

and

2015 Report on Unserved and Underserved Areas

CABLE TELEVISION DIVISION
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
STATE OF HAWAII

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Annual Report on the Development and Expansion of Telework Initiatives

This report is filed pursuant to section 440G-11.5(b), Hawaii Revised Statutes, which requires the Director of the Department of Commerce and Consumer Affairs (DCCA) to submit an annual report to the Legislature "on the department's efforts to use broadband and its products and services to develop and expand telework initiatives, including telework participation levels and trends of both private and public sector employees in Hawaii."

DCCA has convened the Broadband Assistance Advisory Council (BAAC) as required under Act 199, Session Laws of Hawaii 2010 (Act 199). Pursuant to Act 199, as amended by Act 151, Session Laws of Hawaii 2011, the BAAC is to advise the Director on, among other things, "policy and funding priorities to promote and encourage use of telework alternatives for public and private employees" and other states' best practices involving telework promotion and policies. The BAAC has two working groups that were formed to address the distinct subject matter areas of permitting and adoption. DCCA has assisted these work groups in scheduling meetings, and in carrying out various activities designed to address their assigned areas of focus. Telework falls within the primary focus area of the Adoption Work Group. The Adoption Work Group has discussed telework as a potential solution to increase adoption of broadband, but has focused on fact-finding on how broadband is used and the barriers to adoption across the State.

In 2014, DCCA published reports of surveys of broadband use and adoption by individuals and small businesses that included questions designed to gather data about attitudes towards and actual use of the Internet by individuals and by small businesses for telework or telecommuting. This information was distributed to the BAAC and made available on the DCCA website at:

http://cca.hawaii.gov/broadband/files/2013/05/SMS_ResidentialBroadbandSurveyFindings.pdf
http://cca.hawaii.gov/broadband/files/2013/05/SMS_BusinessBroadbandSurveyFindings.pdf

Review of the survey reports will be an agenda item for the next BAAC Adoption Work Group meeting. DCCA will assist and facilitate any telework-related efforts that are identified and supported by this stakeholder group.

Annual Report on the Receipt and Expenditure of Federal Moneys Related to Broadband

This report is filed pursuant to section 440G-11.5(c), Hawaii Revised Statutes, which requires the Department of Commerce and Consumer Affairs (DCCA) to report annually to the Legislature "on the receipt and expenditure of federal moneys from the American Recovery and Reinvestment Act of 2009, and moneys from other federal appropriation measures or applicable federal acts, for the purposes of purchasing broadband facilities, services, or equipment or for entering into contracts for broadband-related projects by all state agencies for all state agencies approval."

The State Broadband Data and Development grant (later renamed the State Broadband Initiative program) awarded to DCCA by the National Telecommunications & Information Administration (NTIA) to carry out broadband data collection and mapping (used for the National Broadband Map) and broadband development planning ended on January 31, 2015. Final total expenditure of the $4,349,940 grant award was $4,346,373. This DCCA grant was the last American Recovery and Reinvestment Act of 2009 (ARRA) broadband-related grant awarded to the State to be completed.

DCCA is unaware of any other current receipt by state agencies of federal moneys for broadband facilities, services, equipment or projects.

2015 Report on Unserved and Underserved Areas

House Resolution Number 6, adopted in the 2015 legislative session, requested reports regarding state agency action to ensure access by rural communities to cellular and broadband services. Specifically, the Public Utilities Commission was asked to report in consultation with the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs (DCCA) on progress and deployment plans related to ensuring that all consumers in the State are provided with equitable access to high quality and comparable telecommunications services. Further, the Director of DCCA (Director) was asked "to report on the Director's progress and plans to:

(1)   Establish affordable, accessible broadband services to unserved and underserved areas of Hawaii and monitor advancements in communications that will facilitate this goal; and

(2)   Find and access funding for such broadband services, including from federal agencies such as the U.S. Department of Agriculture's Rural Utilities service[.]"

Unserved and Underserved Area Planning

Comprehensive Plan

DCCA is working towards the development of a comprehensive plan and program to best utilize and leverage its existing funds for institutional network (INET) and broadband activities (INET/Broadband Fund) to facilitate access to high speed Internet services for those residents in unserved and underserved areas across the State that lack adequate access, as well as to strengthen and expand the State's INET. Because the current balance of these funds is insufficient to address all of the infrastructure needs in the unserved and underserved areas of the State, DCCA believes that planning is crucial to best utilize these funds to expand broadband access across the State.

It is DCCA's intent to complete this planning in 2016 and to make its budget requests for this purpose to the 2017 Legislature. Activities will include the following ongoing activities, as well as a pilot project to provide WiFi services in underserved rural communities in partnership with the respective counties, and efforts that will encourage cooperation in broadband build outs.

Ongoing Broadband Capacity Building Activities

In January 2010, DCCA received a State Broadband Initiative (SBI) Grant from the National Telecommunications & Information Administration (NTIA) for broadband mapping and planning (NTIA grant). As part of the initial planning grant activities, DCCA completed the Hawaii Broadband Strategic Plan in December 2012, which is available on DCCA's website. The Plan provided a comprehensive snapshot of Hawaii's broadband landscape, which included coverage maps, an inventory of transpacific and interisland submarine cable systems and landings, and information and a framework for policymakers to develop policies and programs to

overcome the State's unique challenges to the expansion of broadband infrastructure and access. These challenges include the need to plan for transpacific and interisland fiber connectivity; the small market and limited competition that exists among few broadband providers; the limitations on and expense of satellite broadband coverage; and the other geographic and environmental challenges presented by soaring mountains, deep gulches, dense tropical forests, volcanic activity, and lava rock. Input was sought and received from various stakeholders who were members and participants of the Broadband Assistance and Advisory Council (BAAC), which was created under Act 199, Session Laws of Hawaii 2010, to advise the Director on, among other things, policy and funding priorities to expedite deployment of affordable and accessible broadband services in Hawaii, and its Permitting Work Group and Adoption Work Group. This input included verification by the two primary State wireline providers of maps of the islands showing census blocks with no broadband coverage.

A Capacity Building Project Plan, also available on the DCCA website, was developed to follow on from the Hawaii Broadband Strategic Plan. This Capacity Building Plan provided summaries of deployment and affordable broadband best practices and recommendations, built upon the capacity building goals and objectives outlined in the Hawaii Broadband Strategic Plan and incorporating best practices. The BAAC Permitting Work Group provided input on the Capacity Building Plan and on means to streamline government processes to expedite broadband infrastructure deployment.

As part of the NTIA grant, DCCA undertook various capacity building and broadband adoption activities required by and funded through the grant. (Broadband adoption related activities, such as digital literacy training and promotion of expanded applications, programs, and services, are also considered a key component in increasing broadband facilities and access because of their effect in increasing the demand for broadband.) Significant ongoing grant planning and other capacity building activities of DCCA include the following:

Hawaii County Fiber Gap Project. This project sought to address an identified gap in the telecommunications fiber infrastructure on Hawaii Island that could also serve to bring more capacity into adjacent unserved and underserved areas. A Hawaii Island Capacity Building Resource Report produced: 1) identified broadband service gaps in the south and southeast areas of Hawaii Island, including the gap in the County of Hawaii's fiber optic data communications network; 2) assessed existing public and private broadband and telecommunications infrastructure in these areas; 3) provided fiber optic and/or microwave radio communications solution options to close the gap, identifying the benefits of each option to public and private stakeholders; and 4) examined how the project might lay the foundation for future planning projects to provide broadband access to unserved and underserved populations in adjacent areas.

This report was circulated to government and private stakeholders, and in April of 2014, with the support and assistance of the Hawaii County Mayor, DCCA brought these stakeholders together to work jointly toward closing the existing fiber network "gap" of approximately 25 miles between Naalehu and the Volcano area. Participating stakeholders included the Hawaii County Mayor and IT and civil defense officials, State agency officials, and representatives of Hawaii Electric Light Company; Oceanic Time Warner Cable; Hawaiian Telcom; the U.S. Geological Survey Hawaiian Volcano Observatory; and the Hawaii Volcanoes National Park,

U.S. National Park Service. As a result, providers are working to leverage a planned electric utility transmission line project in the area to include additional fiber for telecommunications.

This project is currently ongoing and further action is pending the EIS application final submission and approval and obtaining of permits and easements. This project brought together many government and private stakeholders to collaborate and leverage efforts and resources to more efficiently deploy needed broadband infrastructure long desired by the providers, network managers and users, but cost prohibitive for each, individually. DCCA continues to maintain contact with the stakeholders and to offer assistance to facilitate this ongoing project, which may serve as a model for future cooperative broadband infrastructure projects among stakeholders.

Broadband Assistance Advisory Council Activities. DCCA supports the activities of the BAAC and its Permitting Work Group and Adoption Work Group. The activities related to infrastructure deployment are fully summarized in the Report on Act 151, Session Laws of Hawaii 2011, Relating to Telecommunications, being provided to the 2016 Legislature.

DCCA-County of Hawaii Wireless Broadband Project. In January 2015, DCCA completed this wireless technologies project (funded by the NTIA grant) to identify and research wireless technologies that might provide a lower cost option to extend broadband service in remote, sparsely populated and densely forested areas. DCCA partnered with Hawaii County to carry out: (1) computer coverage study models for three technologies that show the potential reach of the technologies to provide broadband to residents from eight selected base station locations; and (2) Preliminary Engineering Field Tests in a controlled area for two of the technologies. A Rural Communications Technology Comparison Report was produced as a resource for broadband service providers who could possibly utilize the information and data to offer services in areas where low population density, undulating terrain and heavy forestation have inhibited broadband deployment, as well as for policymakers and other stakeholders interested in wireless broadband solutions.

The Report was distributed to various providers and is posted on the DCCA website. DCCA has maintained communication with Hawaii County, which has continued to test certain technologies to bridge shorter gaps in infrastructure. DCCA will also continue to monitor these and other technologies for possible use in extending service in served and unserved areas.

Inventory of Laws for Broadband Permitting and Approvals. DCCA compiled state and county statutes, administrative rules, ordinances, policies and procedures related to the deployment of broadband (wireless and wireline) infrastructure on public lands. This inventory will be used to look for potential ways to streamline permit and approval processes to expedite the deployment of broadband infrastructure.

In the Report on House Concurrent Resolution Number 189 to the 2016 Legislature (HCR 189 Report), prepared by DCCA on behalf of the BAAC and additional participants, an identified best practice is the creation of a publicly viewable Permitting Inventory to provide an online searchable database of permitting and review information. DCCA will be more fully exploring this best practice with the BAAC in the coming year for possible development and implementation.

Broadband Mapping and Data Gathering. The NTIA grant provided funding for the collection of data from service providers to be used primarily by the NTIA to measure broadband access for Americans and for the creation of the National Broadband Map (NTIA Data). DCCA has continued to work with providers to obtain more granular data on actual broadband availability within census blocks shown as "served" on the National Broadband Map based upon the NTIA Data. *See* HCR 189 Report, Appendix 2 at Appendix B. We note that the providers have expressed difficulty in accurately estimating availability in census blocks as well as across the State due to a number of factors. However, both Oceanic Time Warner Cable and Hawaiian Telcom have recently provided more granular data on actual broadband availability within census blocks that may allow DCCA better estimate access. It should be noted, however, that some of the information shared with DCCA is considered by the providers to be confidential business information and may also be confidential under chapter 440J, Hawaii Revised Statutes.

DCCA has also launched the Measuring Broadband Hawaii program to expand Hawaii's team of volunteers under the Federal Communications Commission's (FCC) Measuring Broadband America program, a nationwide study of consumer broadband performance. The goal of the Measuring Broadband Hawaii program is to increase the information available to consumers and policymakers about Internet service performance across the State, with special focus on the more rural communities. Participants receive free devices (called "whiteboxes") that plug into their cable or DSL modem. The device runs periodic tests to measure the speed and quality of the participants' Internet service. Participants receive access to a personal reporting suite that allows them to monitor their own Internet service performance in real-time. DCCA is given access to the data without personally identifiable information. The whiteboxes have been, and continue to be, distributed across the State to subscribers for the two primary residential wireline Internet service providers. DCCA will continue this program to inform its future broadband capacity building projects as well as to provide this information to consumers and policymakers.

DCCA is also researching cost-feasible options to provide an online, publicly accessible broadband map to show served and unserved areas throughout the State. DCCA continues to collect information on unserved and underserved areas through resident reporting, which may be used for mapping purposes. An online reporting form is available on the DCCA website, and DCCA continues to look for other ways to get more detailed information on service across the State, such as through the development of relationships with the counties and community associations.

Broadband Infrastructure Deployment Best Practices. HCR 189 requested identification of best practices to establish a broadband projects database of current and prospective projects. Based upon its research of federal and nationwide practices, DCCA identified six (6) complementary best practices to create, support and enhance a broadband for the creation of a projects database and other practices that may support and enhance the effectiveness of such a database, which may reduce deployment time for broadband infrastructure and maximize state and county resources. These best practices include development of the following: (1) an infrastructure projects database and dashboard; (2) a permitting inventory; (3) a broadband project document

inventory; (4) "Dig Once" policies and practices; (5) an online project notification system; and (6) a broadband utilities and projects coordinator position.

Most of these recommendations had been previously made in the Capacity Building Project Plan prepared by DCCA in 2013, with review and input by the BAAC. In the HCR 189 Report, DCCA recommended that these best practices be further reviewed by the BAAC and other relevant stakeholders. If supported in concept, these best practices will be more fully explored and developed for future recommendation or implementation. This could include setting priorities in implementation, assessments on statutory amendments or additional funding that may be required, and other details such as leads on implementation. DCCA is, however, prepared and able to provide "start-up" costs and support for the initial research and planning activities that may be required.

In addition, DCCA will continue to work with the Department of Transportation (DOT) to gather input and work towards implementation of a broadband utilities and projects coordinator position to facilitate and coordinate broadband infrastructure projects that utilize government roadways and rights of way. Proposed position duties would include review of broadband projects for compliance with DOT right-of-way and use and occupancy requirements, service as a liaison between the broadband applicant and DOT, and coordination of projects to promote the "dig once" concept. The objective is to have a coordinator with access to future construction project plans that would allow for strategic cooperation between government, utility companies and communications companies to expedite and improve efficiency in broadband construction projects to reduce costs and to minimize disruption of roadways.

Hawaiian Electric Companies (HECO, MECO, and HELCO) Dark Fiber Leasing. DCCA is engaging with the Hawaiian Electric Companies regarding their policies and potential to lease dark fiber and other facilities to broadband providers, which could provide critical infrastructure required for the delivery of broadband particularly to rural, unserved and underserved areas of the State.

Federal Funding

The State Broadband Leaders Network (SBLN) is the successor to the SBI program, and an activity of BroadbandUSA, the singular banner under which the former SBI and Broadband Technology Opportunities Program (BTOP) operates. As the former SBI grantee, DCCA serves as this State's contact for the SBLN. DCCA will, thus, be kept apprised of new federal funding opportunities through this role as well as through its efforts to monitor other federal programs.

In particular, the U.S. Department of Agriculture (USDA) and U.S. Department of Commerce released a joint report in August 2015 in response to President Obama's Presidential Memorandum creating the Broadband Opportunity Council and tasking it to produce specific recommendations to increase broadband deployment, competition, and adoption through executive actions within the scope of existing agency programs, missions, and budgets. The report is known as the Broadband Opportunity Council Report and Recommendations.[1] Among

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[1] *See* http://www.ntia.doc.gov/report/2015/broadband-opportunity-council-report-and-recommendations.

other matters, Section 4.1 of the joint report describes thirteen actions that will open up or clarify the potential uses for $10 billion in federal grants and loans for broadband-related activities. During the upcoming year, DCCA will review possible funding opportunities described in the joint report. DCCA will also explore funding opportunities under the various programs administered by the USDA's Rural Utilities Service to increase deployment and access to broadband services throughout the State.

Furthermore, DCCA monitors and actively participates in relevant FCC proceedings to advocate the State's interests in E-rate funding, and other forms of universal service support, in particular high cost support for remote and insular areas, in order to further deployment of broadband infrastructure in Hawaii's remote areas.