

BROADBAND ASSISTANCE ADVISORY COUNCIL MEETING (BAAC)

**DEPARTMENT OF
COMMERCE AND CONSUMER AFFAIRS (DCCA)
STATE OF HAWAII**

MINUTES OF MEETING

Date: Tuesday, November 22, 2016
Time: 10:00 a.m. – 11:27 a.m.
Place: King Kalakaua Building
Queen Liliuokalani Conference Room
335 Merchant St.
Honolulu, Hawaii 96813

Present: Chair Catherine Awakuni Colón (Chair), DCCA
BAAC Members Donald Jacobs, County of Hawaii (by Skype)
Tony Velasco, City & County of Honolulu (City)
Garret Yoshimi, University of Hawaii
Jason Fujita (for Scott Barber), Hawaiian Telcom (HT)
Ian Kitajima, Oceanit
Sharene Urakami-Oyama, AT&T
Kiman Wong (for Gregg Fujimoto), Oceanic Time Warner
Cable (OTWC)

Other Participants Dave Okamura (by phone), Hawaii Electric Light Co. (HELCO)
Joyce Masamitsu, Verizon Wireless (Verizon)
Paul Dickey, Verizon
Jon Okudara, Verizon
Paul Nakagawa, Hawaiian Electric Company (HECO)
Steve Nagata, HECO
Tracy Nishibun, HECO
Daniel Masutomi, HT
Paul Krueger, HT
Jade Butay, Department of Transportation (DOT)
Todd Ogasawara, Office of Enterprise Tech. Services (ETS)
Arnold Kishi, ETS
Cyd Miyashiro, Dept. of Business, Economic Development &
Tourism (DBEDT)

DCCA Ji Sook “Lisa” Kim (Cable Administrator); Cathy Takase; Debby
Shin; and Jeremy Aoyagi

I. Call to Order

The Chair called the meeting to order at 10:01 a.m.

II. Hawaii Island Fiber Gap Project Update (Fiber Gap Project)

As previously reported to the BAAC, DCCA has continued to follow up with stakeholders, including HT, OTWC, the County of Hawaii, and HELCO to address the need to bridge the gap (create a fiber ring) in Hawaii Island's fiber infrastructure from Pahala through the Hawaii Volcanoes National Park (HVNP) (Fiber Gap Project). Recent cuts in the fiber on the island have resulted in communication outages in parts of the island, including an inability to make emergency 911 calls. The Chair noted that bridging the fiber gap relies substantially on HELCO's line rebuild project that traverses most of the gap. Mr. Dave Okamura was thus invited to provide an update on HELCO's project.

A. Report by HELCO

Mr. Okamura offered a brief PowerPoint presentation on HELCO's project to upgrade and move its transmission lines to run along the highway and through the HVNP. The project includes updating existing lines for greater reliability and better accessibility, as well as replacing poles with taller and stronger poles, which will be able to accommodate and support communications cables. HELCO understands that the best path to close the fiber gap is on HELCO's new poles, and has thus made the project a priority.

Providers will need to address fiber gaps beyond the end of the HELCO project to Pahala on one end, and from an endpoint between Phase II and III of the HELCO project to the providers' existing fiber near the Volcano Golf & Country Club on the other end. On the Pahala side of the HELCO project, HELCO has an existing 69KV pole line that runs to Pahala that likely has the space and capability to carry a fiber cable, but Mr. Okamura was unaware of any provider requests to date to attach to these poles. The following additional details on the four phases of the HELCO project were provided:

PHASE 1: This is the most southwest portion of the project, beginning at the edge of HVNP and stretching inward about nine miles to an area near Namakani Paio Campground. Phase 1 was originally scheduled for completion in 2015, but additional review by HVNP has moved the timeline to Q2 of 2017. Phase 1, which HVNP supports, moves HELCO's existing line from the lava fields to the highway. HELCO had hoped to complete Phase I last or this year, but it is now scheduled for next year because 170 pole placements must be re-reviewed and approved by HVNP. HELCO must submit plan drawings and re-stake the locations in the ground. HELCO plans to submit these placements for review by the end of November or early December 2016, and hopes to get HVNP's approval soon thereafter. Once HELCO receives final HVNP approval, HELCO must: (1) publish its environmental impact statement; (2) submit for archaeological review by the State Historic Preservation Department; and (3) obtain a final permit from DOT, which has indicated that it would defer to HVNP.

PHASE 2: This phase covers a shorter length from the end of Phase 1 to the Volcano Golf & Country Club. HELCO may be able to shift resources to complete this phase in 2017, but because Phase II is also in HVNP, it requires the same approvals as Phase 1.

PHASE 3: This phase is the most challenging because of HVNP's desire to keep poles near the entrance of the park non-visible to visitors. HELCO has identified an alternate route outside of the park on a 2 mile jeep trail owned by Kamehameha Schools Bishop Estate (KSBE). Because HELCO is still in negotiations with KSBE on compensation for the easement, which likely requires KSBE trustee approval, this phase is projected for 2019. Closing the fiber gap may not be dependent upon this phase, but because the providers may want to put a full trunk of fiber along this route, HELCO plans to contact them to potentially negotiate jointly for a KSBE easement.

PHASE 4: This phase, in the Volcano Village area, follows an existing HELCO route. Thus, the main concern is to inform the community and homeowners along the route of the pole replacements. HELCO has given this phase a lower priority and scheduled it for 2018 because, although needed for HELCO's transmission line upgrade, it is not needed to close the gap.

Mr. Don Jacobs asked about closing the gap for purposes of the State's Institutional Network (INET). Mr. Kiman Wong confirmed that OTWC has telecommunications infrastructure in the Pahala and Volcano Golf & Country Club areas, and would be able, after Phase 1 and 2 of HELCO's project, to install fiber to close the gap for OTWC's network and the INET. Mr. Jacobs said that the timing of the INET gap closure was important to the County of Hawaii in completing its own multiprotocol label switching (MPLS) project to allow bi-directional access to the INET, noting the earliest completion date appeared to be in 2018.

The Chair reiterated the importance of the Fiber Gap Project to DCCA and thanked Mr. Okamura for keeping DCCA updated on HELCO's project. The Chair noted that the DCCA team will be meeting on Hawaii Island with the HVNP superintendent and staff and with KSBE on December 5, 2016, and would stress the need to expedite the HELCO project because of the importance of the Fiber Gap Project for public safety communications. DCCA will also continue to communicate with HT and OTWC on their progress. Mr. Okamura thanked DCCA for its efforts and welcomed any possible assistance with approvals going forward.

B. Report by OTWC

The Chair asked about OTWC's next steps to close its fiber gap. Mr. Wong explained that OTWC's project is split into two phases and provided a map showing the phase routes. The first phase extends telecommunications

infrastructure approximately 18 miles from the south side of HVNP following the existing pole line along Highway 11 to Pahala. OTWC is finalizing its make-ready application to HELCO. This phase is budgeted for 2017 and will take 2-3 months to complete. The second phase will be to run fiber on HELCO's new pole line, with a construction period of 1-2 months. Because it is dependent upon completion of Phase 1 and 2 of HELCO's project, this phase has not yet been designed and will likely be budgeted for 2018.

Gap closure will allow servicing of any residents in the area and the creation of a full fiber ring around the island. OTWC's interisland fiber lands on the Kona side of the island. OTWC has a ring up from Hilo through Kamuela and back to Hilo using the Saddle Road, but this project will bring the ring around the whole island. Sufficient fiber will be run to provide fiber for the INET ring. Mr. Wong stated that he would follow-up on the exact location of the termination points of OTWC's current telecommunications infrastructure near the Volcano golf course.

C. Report by HT

Mr. Daniel Masutomi provided an update on HT's efforts to close its fiber gap. A map was provided of HT's 27-mile fiber gap in its ring, which closely mirrors OTWC's fiber gap. Mr. Masutomi explained that the ring would provide coverage for a majority of Hawaii Island, and will specifically benefit all of West Hawaii from Kona down and also Puna, Keaau, Mountain View, and Volcano, which are currently on a spur. Similar to OTWC, HT already has a smaller ring for coverage of areas such as the Hamakua coast and Waikoloa/Anaehoomalu.

HT also requires completion of Phase 1 and 2 of the HELCO project. HT will also extend HT's fiber on the HELCO's existing 69KV line to Pahala. HT does not need Phase 3 of HELCO's project because HT already has existing fiber in the Volcano area that extends into HVNP. HT will look at implementing this project in 2018-2019 once the HELCO project is completed and subject to budget and funding, but may begin the advance work of obtaining easements and buying interests in HELCO's poles.

The Chair reiterated that DCCA would continue to monitor progress on the Fiber Gap Project and report back to the BAAC on this as well as DCCA's meetings with HVNP and KSBE.

III. Permitting Work Group Report

Copies of the Permitting Work Group Report, dated November 22, 2016, were provided. The Report covers the following topics: (1) Infrastructure Projects Database, (2) Online Project Notification System for Poles, and (3) "Dig Once" Policies and Practices.

Mr. Tony Velasco, Chair of the Permitting Work Group, highlighted that the City & County of Honolulu (City) is developing a new online project database system named Lokahi, which will replace the City's existing project management system. The City is currently in the internal testing phase of development, with plans to roll out the software to the public utilities in November or December of 2018. With respect to Item (2) on the report, an online project notification system for poles, Mr. Masutomi was asked to report on the Joint Pole Committee's discussion on becoming a member state in the National Joint Utilities Notification System (NJUNS). Mr. Masutomi stated that it had not yet been discussed because they had not had a recent Oahu Joint Pole Committee meeting.

The BAAC members were asked for further comment on "Dig Once" policies and practices, but there were none. The Chair asked that any suggestions for the Permitting Work Group be sent to Mr. Velasco and DCCA.

IV. DCCA 808 WiFi Pilot Project (WiFi Pilot Project)

The Chair provided a short introduction of the WiFi Pilot Project that is aimed at providing public Internet access at public facilities statewide, particularly in unserved and underserved rural communities and socio-economic "at-risk" communities. DCCA is currently developing the project plan and will be seeking monies through a budget request to fund the WiFi Pilot Project. Current plans include the provision of WiFi hot spots in at least five state or county locations in each of the four counties. DCCA will work with state and county stakeholders for each county to identify locations of need.

In response to an inquiry regarding the amount of the DCCA budget request for the WiFi Pilot Project, Ms. Ji Sook Kim responded that \$1,000,000 would be requested over 2 fiscal years to cover all costs of the project, including infrastructure related expenses, equipment costs, and contingencies. The Chair noted that DCCA would be seeking a ceiling increase to use franchise monies earmarked for INET and broadband purposes, i.e., special funds as opposed to general funds, and that approval would be required from the Governor and the Legislature through the budget process. The Chair stated that DCCA was hopeful that the request would be approved.

The Chair stated that the BAAC would be kept informed on the status of DCCA's budget request as the session progressed and of DCCA's forthcoming outreach plans to determine appropriate WiFi Pilot Project locations. The Chair asked for any suggestions and feedback, including identifying areas of need, noting that DCCA intended to continue to formulate the WiFi Pilot Project plan in anticipation of budget approval. The Chair again noted that DCCA would be doing outreach to stakeholders to identify WiFi hotspot locations that would best serve communities' needs for access to broadband.

V. Presentation by Verizon

The Chair thanked Verizon representatives for accepting the invitation to provide information to the BAAC on 5G technology (5th generation wireless technology), including generally what would be deployed, what it would look like, and the possible impacts of, and challenges to, deployment.

Verizon provided presentation materials explaining small wireless facilities; the growth of wireless demand; the evolution of wireless technologies; challenges in deploying small wireless facilities; 5G deployment priorities; legal and policy frameworks for 5G; and the importance of 5G. Ms. Joyce Masamitsu, Director of Public Policy; Mr. Jesus Roman, Assistant General Counsel, Pacific and North Central Markets; and Mr. James Kim, Principal, Business Development Smart Communities, expanded upon key points of the presentation, including the following:

- Significant growth trends shown in the mobile data market.
- 5G will exponentially increase mobile Internet speeds up to 10 gigabits per second or approximately 100x faster than current 4th generation LTE technology with no effective latency allowing for seamless communication that will enable the Internet of Things (IoT).
- 5G relies on higher frequency bandwidths that have short propagation distances but offer higher quality and speed data services.
- 5G relies on a dense network of small wireless facilities. Approximately 250,000 traditional cell sites were deployed industry-wide across the country in the past 30 years. The industry expects to deploy another 250,000 small cells in the next 3-4 years.
- Small wireless facility features include a 40" tall by 12" diameter canister antenna, 1 or 2 remote radio heads, power cable and meter, and a fiber connection that perch atop utility poles, transit poles, street lights, signs, and signal light poles.
- Small cells are placed where demand is the greatest. Demand requires placement of more small wireless facilities, and the ideal location for coverage is at lower levels closer to the users. Thus access to distribution and light poles and buildings is needed.
- Challenges include permitting processes that do not allow for quick deployment of small wireless facilities. Existing regulatory processes do not account for such facilities and often require them to follow the same processes as macro towers, such as conditional use permit or special use permit processes that require public hearings and may take 12-18 months for approval. Also, fee structures that treat wireless facilities the same as macro towers can make deployment cost prohibitive.

- Wireless providers would like laws updated as needed to:
 - Streamline permitting process by allowing small cell siting to be a permitted use, eliminating the first discretionary permitting process.
 - Allow for batching of small wireless facilities applications for permitting review.
 - Impose reasonable and nondiscriminatory fees on a cost basis for attachments, citing as an example federal formula that allows recovery for administration, maintenance, and pole make ready costs.
- Appropriate statutory framework does not remove local oversight of the permitting process. The municipality has the right to deny applications based on objective requirements, including those required for building, electrical and public right of way use permits.
- The proper framework will balance encouraging investment with maintaining local government's oversight of the public rights of way, and will accelerate the benefits of 4G LTE and 5G, including IoT, smart cities, and dependable wireless networks for emergency services.
- Wireless technology drives economic development, including job creation, spending, capital expenditure, and IoT market growth.
- Wireless technology trends:
 - Proliferation of devices – billions of devices with different needs.
 - Exponential increase in data usage - gigabits of data transferred in an instant.
 - Heightened user expectations – for rich multi-media content.
- IoT is providing better healthcare, equality in education, smarter cities, new business models, and optimized transport.
- Mobile apps and sensors, powered by 5G will:
 - Improve healthcare outcomes and lower costs through remote diagnostics and treatment, patient self-help, and access to patient records.
 - Improve compliance and safety by tracking and tracing prescription drugs.
 - Make cities more livable through smart lighting, smart traffic, citizen engagement, and smart video.

The Chair asked Ms. Kim Yoshimoto and Mr. Mike Iosua, local counsel for Verizon, if they wanted to begin the conversation on updating laws for deployment of small wireless facilities. Ms. Yoshimoto, Mr. Iosua, and Mr. Roman responded that this presentation was intended to provide information, answer questions, and receive feedback on concerns regarding the deployment of 5G and the improvement of wireless services through updated statutes and/or ordinances. Mr. Roman noted that Verizon was working with other carriers as well as CTIA (an international wireless association) to address issues in updating ordinances and laws in this and other jurisdictions. He noted that laws had been

passed in various other jurisdictions, including Kansas, Anchorage, Alaska, and Kenmore, Washington.

Opening the floor for questions and there being none, the Chair thanked Verizon for the information presented.

VI. Announcements

The Chair asked for any announcements or items that the members wanted to raise for the next meeting. There were none.

VII. Adjournment

The Chair thanked all for their attendance, and adjourned the meeting at 11:27 a.m.