



DRAFT

UTILITIES ADVISORY COMMISSION MEETING MINUTES OF SEPTEMBER 2, 2015

CALL TO ORDER

Chair Foster called to order at 6:08 p.m. the meeting of the Utilities Advisory Commission (UAC).

Present: Commissioners Cook, Ballantine, Danaher, Eglash, Chair Foster, Schwartz, and Council Liaison Scharff. Commissioner Hall arrived at 6:10 pm.

Absent: None

ORAL COMMUNICATIONS

None.

APPROVAL OF THE MINUTES

Commissioner Eglash noted that on Item 1, as recorded in the minutes for the UAC's August 5, 2015 meeting, he recused himself and left the meeting. However, the minutes did not state when he returned to the meeting. Commissioner Eglash suggested that the minutes be corrected to reflect that he returned and participated in the rest of the meeting. The minutes are updated to note Commissioner's Eglash's return after four minutes of elapsed time.

Commissioner Eglash also noted, on Item 3, an incomplete sentence that reads, "Commissioner Eglash agreed." He suggested the minutes be corrected. The complete sentence should read, "Commissioner Eglash agreed that the communication challenge around achieving the required water use reduction is complicated by the fact that winter use is primarily restricted to indoor use (cooking and washing), and a seasonal correction that encourages significant water reduction in the summer is necessary.

Vice Chair Cook moved to approve the minutes from the August 5, 2015 UAC meeting as modified with the changes suggested by Commissioner Eglash and Commissioner Eglash seconded the motion. The motion carried unanimously (6-0 with Commissioners Cook, Danaher, Eglash, Hall, Foster and Schwartz voting yes and Commissioner Ballantine abstaining).

AGENDA REVIEW AND REVISIONS

None.

REPORTS FROM COMMISSION MEETING/EVENTS

None.

UTILITIES DIRECTOR REPORT

1. Community Outreach Events, Workshops and Staff Speaking Engagements

Events this past month:

- August 5–Drought materials giveaway with the Santa Clara Valley Water District.
- August 12–City hosted public meeting about the drought, CPAU and PWD staff presented.
- August 13–Water Conservation 101 workshop.
- August 24–CPAU Communications Manager Catherine Elvert spoke to the Rotary Club about water and drought conditions.
- August 25–Catherine Elvert spoke about water and drought conditions to SAP employees at their Lunch and Learn Sustainability Series.
- August 30–CPAU Senior Resource Planner Karla Dailey participated in a panel discussion about environmental issues at Project Enybody’s Green Fest. CPAU also tabled at the event.

Upcoming events:

- September 8–Catherine Elvert will speak to a San Jose State University Energy Policy Class about water policy, usage, drought and the connection to energy.
- September 13–CPAU will be at Midtown Residents Association Ice Cream Social.
- September 17–Maintaining Existing Landscape Design during Drought workshop.
- September 26 - Rainwater Harvesting and Graywater Reuse workshop.
- October 4-10 is Public Power Week. CPAU staff will organize a social media campaign, news releases and outreach events to raise awareness about the benefits of public power utilities.

2. Drought Update

Cumulatively since June 1, Palo Alto's water savings are about 34% compared to 2013 levels, the year established for benchmarking water use reduction targets. Palo Alto must achieve a citywide 24% water use reduction from June through the end of February. Water savings will be much more difficult to achieve in the winter months, so it is very important to maximize our water savings during the warm summer and fall months. Utilities staff are attending many speaking engagements and community outreach events to emphasize the importance of continued conservation. Find details on free workshops and track our water-saving progress at cityofpaloalto.org/water

3. Marketing Services Update

PaloAltoGreen Gas: This program allows customers to pay a small premium each month on their utility bill to have the carbon emissions associated with their natural gas usage neutralized through carbon emissions offset projects. As of last week, 940 customers have signed on to the program, including all City accounts.

4. **Other Communications Updates**

The American Public Power Association (APPA) is supporting the #ILookLikeAnEngineer social media campaign, in which female engineers are encouraged to post a photograph of themselves in social media, highlighting the work they do as engineers. The intent is to empower future generations of young women to pursue careers in the Science, Technology, Engineering and Mathematical (STEM) industries. CPAU female engineers are now also promoted through this campaign. Follow the story through #PublicPower and #ILookLikeAnEngineer!

UNFINISHED BUSINESS

ITEM 1: ACTION: Staff Recommendation that the Utilities Advisory Commission Recommend that the City Council (1) Adopt a Resolution to Certify the Final Environmental Impact Report for the Proposed Recycled Water Distribution Project, 2) Adopt a Resolution to Accept a Modification to the City's Long Range Facilities Plan for the Regional Wastewater Quality Control Plant which Includes the Recycled Water Project; and 3) Direct Staff to Seek Funding for the Project (CONTINUED FROM AUGUST 5 UAC MEETING)

As an employee of the Santa Clara Valley Water District (SCVWD), Commissioner Hall recused himself from the discussion.

As an employee of Stanford University, Commissioner Eglash recused himself from the discussion.

Karin North, Watershed Protection Manager and Phil Bobel, Assistant Director Public Works, made the staff presentation. North reminded the commission that staff is only requesting that the UAC recommend that Council certify the Environmental Impact Report (EIR) at this time. North summarized the history of recycled water in Palo Alto. She said that the Water Quality Control Plant treats wastewater from a number of cities including Los Altos, Los Altos Hills, Stanford, Mountain View and part of East Palo Alto. Currently the City of Mountain View receives the majority of the recycled water right.

North said that the large customers in the Stanford research park are most feasible customers for an expansion of the recycled water system because large landscaped areas are present. She stated the project objective is to improve the potable water supply reliability for the City and reduce reliance on imported water. North pointed out that the timing of this project is good because the drought highlights the shortage of potable water during some periods. She added that expanding the use of recycled water also helps the Water Quality Control Plant reduce discharges to the bay.

North said the main issue addressed in the EIR is salinity and the impact on landscapes, the groundwater basin, and urban forest. The EIR provides exemptions for redwood trees and identifies blending or further water treatment as options if the salinity reduction goals of 600 total dissolved solids are not met.

Although North did not focus on the financial aspects of the project, she said the project is estimated to cost \$35M. North said San Francisco Public Utility Commission wholesale water

rates are going up, so the City's potable water supply is becoming more expensive. She reminded the Commission that the EIR is needed for the City to apply for grant funding.

North described the potential risks to the project including stranding the asset due to other graywater or groundwater uses for landscaping and/or reduced demand for irrigation due to landscape conversions. She assured the Commission that other options exist in the future to make the project valuable in the future. Then North summarized staff's request.

Gary Kremen, Chair of the SCVWD Board of Directors, made comments thanking Palo Alto for its water conservation efforts and said he is excited about Palo Alto's dedication to recycled water. He stressed the need to secure Proposition 1 funds. Chair Kremen pointed out that two Palo Alto City Council members are working with the SCVWD and other agencies on recycled water issues through a new committee.

Oral Communications

Hossein Ashktorab from the SCVWD made public comments supporting the recycled water project. He said the project will help the District achieve county-wide goals. He said recycled water is a drought-proof and locally-controlled resource and the new joint committee represents a new era for recycled water.

Commissioner Danaher asked whether this project is just for Stanford's benefit. Bobel said it was not and cited the reduction in effluents to the bay which is a benefit to all of the City's partners. Bobel pointed out that Stanford was the most vocal opponent of the project and reminded the Commissioner that the buildings in the project area are largely not occupied by Stanford.

Utilities Director Valerie Fong said there may be a benefit to the customers receiving the water during a drought, but the rates and cost to the City for the project are currently unknown before seeking funding. Bobel said we will work out finances later. He said the project will make more potable water available for someone else. Bobel projected that, in the future, many types of water will likely be produced to match the right water with the right need. Bobel added that growth and the need for water will increase, so recycled water will benefit all.

Chair Foster asked why staff does not propose going straight to purified water. Bobel said the asset will be used in the future for some purpose, possibly for some form of purified water. Commissioner Ballantine pointed out the purified water is much more expensive and more energy intensive.

Commissioner Schwartz commented that the trucking water businesses could indicate where there is a need for recycled water. North responded that 4 companies currently deliver the City's recycled water to residents and that the City is collaborating with those very entrepreneurial businesses. Schwartz complemented staff for taking that approach. North added that water is heavy and it generally makes more sense to move by pipeline.

Vice Chair Cook reminded the other commissioners that staff is asking for approval of the EIR and said he would not ask all his questions about the technical and financial issues surrounding this project.

Councilmember Scharff questioned staff about water use going down over time even though growth in population has grown. Bobel agreed.

Commissioner Ballantine asked about blending. Bobel said blending is our least favorite solution, but it still saves potable water overall.

ACTION: Vice Chair Cook moved and Commissioner Schwartz seconded staff's recommendation. The motion passes unanimously (5-0) with Commissioners Cook, Ballantine, Danaher and Schwartz voting yes and Commissioners Hall and Eglash recused.

Commissioners Hall and Eglash returned to the meeting at 7:10 pm.

NEW BUSINESS

ITEM 1: ACTION: Staff Recommendation that the Utilities Advisory Commission Recommend that the City Council Defer Issuing a Request for Information on Partnership Opportunities for a Fiber-to-the-Premise Network; Issue a Request for Proposal(s) to Expand Wi-Fi Coverage to City Facilities and Public Areas, and Improve Wireless Communications for Public Safety and Utilities

Chief Information Officer Jonathan Reichental presented an update on the technological advancements in the telecommunication marketplace. There has been a lot of broadband and Internet activity since 1999 when the initial FTTP study was completed. There is an emergence of cellular technologies. Currently, 4G service allows download speed up to 12MB. There is a consortium developing 5G service, which will enable download speed of 1GB to 10GB, but 5G will probably not be available until 2020. *Smart cities* are paying attention to the emergence of the so-called "*Internet of Things*" ("IoT"), which connects people and various applications and devices (e.g. thermostats, traffic signals and multiple household appliances) to the Internet over ultra-high speed broadband connections. These innovations will change how people live and navigate within their everyday environment and will require the support of next-generation fiber networks, in addition to ubiquitous wireless connectivity in an increasingly mobile society.

Todd Henderson, Senior Technologist from the Information Technology Department and Jim Fleming, Senior Management Analyst from the Utilities Department made the staff presentation. Todd provided an update on Google Fiber. Palo Alto is one of 34 cities around the country being considered for Google Fiber. In May 2014, the City completed the Google fiber checklist. The City continues to have meetings with Google regarding a potential fiber deployment in Palo Alto. These meetings are currently focused on the California Environmental Quality Act (CEQA) and the City's permitting processes for use of the public rights-of-way, utility pole attachments, conduit usage and dark fiber licensing. Staff anticipates Google will make a

final decision on the San Jose metro area (Palo Alto, Mountain View, Santa Clara, Sunnyvale and San Jose) sometime this fall.

In May 2015, AT&T approached the City with intentions to bring GigaPower to Palo Alto. GigaPower will provide gigabit broadband and voice-over-IP services to residents, but will not include television programming, which will stay on their existing U-Verse system. The first phase of AT&T's GigaPower deployment will install 27 new cabinets in Palo Alto that will be placed next to existing U-verse cabinets. AT&T has provided a sample permit application to the Public Works Department for review. AT&T plans to begin construction in Q4 2015 and offer service sometime next year.

Fleming presented the scope of work, findings, and recommendations for the Fiber-to-the-Premises (FTTP) Master Plan study conducted by CTC Technology & Energy (CTC). Fleming highlighted some of the key findings from the report. The required customer take rate is between 57% - 72% depending on whether or not the City elects to use \$20 million from the Fiber Reserves to build and operate a city-owned FTTP network on a positive cash flow basis. The total capital investment to build the network is \$77.6 million over three years. Several factors make the required take rate and build costs higher in the Bay Area for an FTTP overbuilder (e.g. high cost of labor and materials, utility pole "make ready" requirements and replacement of utility poles). The report recommended the City not pursue a "for choice" retail broadband service. Traditional cable TV service should not be part of any offering due to the high cost of cable TV programming and consumer migration away from traditional pay-TV services offered by multi-channel video providers to "over-the-top" streaming video offerings such as Netflix. Incumbent telecommunications providers will use aggressive tactics to undermine a municipal network and customer acquisition initiatives. FTTP overbuilds by public or private entities generally do not offer an adequate return on investment, particularly in communities already well-served by the incumbent Internet service providers (ISPs). Using a public-private partnership model for FTTP deployment takes advantage of each entity's strengths and may reduce the risk of an overbuild in a competitive market. Through a RFI process, the City should explore three potential public-private partnership models.

Fleming presented the scope of work, findings, and recommendations for the wireless network plan conducted by CTC Technology & Energy. CTC made four recommendations:

1. Expand existing City Wi-Fi to other City facilities and adjoining public areas not currently served.
2. Install dedicated wireless facilities to address communication needs of Public Safety and Utilities.
3. Deploy a citywide mobile data network for public safety and other authorized users.
4. Consider citywide Wi-Fi for general public use, but deployment dependent on citywide fiber expansion. Wireless provides a mobility component to the fiber-optic

At the end of the presentations, staff made two recommendations. First, defer issuing an RFI to evaluate public-private partnership opportunities for FTTP until after December 31, 2015. Second, issue RFP(s) to expand Wi-Fi to improve wireless communications for Public Safety and

Utilities and to expand coverage to City facilities and public areas not currently served by the City's existing Wi-Fi network.

Public Comment

Jeff Hoel sent comments on the first 111 pages of the FTTC report. One week is not enough time for the public to provide comment due to the length of the reports. Hoel does not agree with the estimated cost and some of the details in the report. The estimated cost is too high. The estimated cost for premise connections is five times too high. The cost of living in the Bay Area does not support those estimates.

Herb Borock recognized the importance of data and is glad the City is addressing it. He does not agree with CTC's recommendation to provide Active Ethernet to small businesses, instead it should be targeting homes. This approach may cannibalize the existing "value added resellers" currently licensing dark fiber from the City. Google hired CTC to conduct a study on streamlining cities processes. Herb does not agree with a partnership model. The City should use the Fiber Fund to pay for drop cables and customers can pay for home connections. Active Ethernet is better than GPON for residents. A wireless survey was recently conducted and less than 10% of respondents thought it was important for the City to provide Wi-Fi service.

Bob Harrington presented a memorandum addressed to the UAC and the City of Palo Alto titled "*FTTP is critical to Palo Alto infrastructure.*" This memorandum was written by Harrington, Andy Poggio and Christine Moe, members of the City's FTTP/Wireless Citizen Advisory Committee. In summary, FTTP is critical to Palo Alto because the City is situated in Silicon Valley with many startups; city-owned utilities is valuable and cost effective; emergency services and utilities can perform and respond better; universal access guaranteed by the City; and, City independence for fiber infrastructure will foster competition. Metcalfe's Law says that the number of Internet users is growing exponentially; redundancy will provide fail-safe protection. Harrington recommended that FTTP's goals are to provide universal access to all City residents and businesses. The memorandum recommended that the Council direct staff to immediately negotiate with potential private partners to build a city-owned FTTP network, and limit wireless investment to Public Safety and Utilities.

Commissioner Comments

Chair Foster asked Harrington, "Do you not fully agree with staff's recommendations?" Harrington replied that the City should start to negotiate immediately with the providers for a "co-build with a private network" approach.

Commissioner Schwartz asked Harrington about universal access and if he has any research regarding the percentage of homes in Palo Alto that do not have access to internet access. Harrington replied that he thought it was about 10 percent, but he does not really know for sure.

Commissioner Schwartz said the subcommittee meetings and reports provided a thoughtful review including what happened historically, what is different now, and emerging technologies. The fiber subcommittee supported staff's recommendation of waiting a few months because it

will provide time for the major players to make their decision on whether or not they're really coming to Palo Alto. We also need to evaluate the cost of providing universal access. Would it be less expensive for the City to assist low income residences with broadband access rather than building its own network? Commissioner Schwartz stated that the idea to upgrade fiber for Utilities and Public Safety is good. There is a feeling that the City may not have a lot of leverage to negotiate with providers; we may not be able to get anything out of them.

Commissioner Schwartz asked a question about VTA rolling out fiber. Fleming replied that many transportation agencies are upgrading their systems with Wi-Fi capabilities for use by riders.

Commissioner Danaher agreed with Harrington that there is a need for high-speed Internet. The report was well done, but it was completed in June. The market has changed since then. Staff should get more information in the next 60 days. It makes sense to wait and collect more information. Commissioner Danaher also asked what the City can do to assure citywide coverage and affordable rates. Since connection fees may be expensive, can customers pay off the cost over time through their utility bills?

Commissioner Eglash stated that broadband is an important subject. He is impressed that we agree on the vision and goals of gigabit service, entrepreneurship and quality of life, but disagree on tactics. There is an open question about what the City does and what the private sector does. It's hard to know what the right line is between the public and private sectors. Utilities provides uniform service. Most of the City has access to broadband. Commissioner Eglash believes the recommendation to support Public Safety is terrific. Commissioner Eglash stated he has no concern about the extended delay for issuing the RFI to evaluate a public-private partnership. Everyone is committed and the delay could be valuable. There needs to be an assurance that gigabit broadband is available to the entire city. Staff should look at cities where Google has already deployed fiber in that regard. Commissioner Eglash asked how universal access works in these Google cities. Fleming replied that Google has done a good job with "digital inclusion" programs in all of the cities they've worked with to deploy fiber optics (e.g. slower speed, low cost broadband service tier for low-income residents). Google's goal is to serve all communities with their networks.

Vice Chair Cook stated that it's no longer 1999 or 2012 and we have to move forward. It is time for a consensus to take some action as Council Member Kniss has previously suggested. There is a risk of obsolescence with any technology. City may commit funds and then the network is obsolete. Don't want to create a stranded asset. Vice Chair Cook asked a question about what appears to be contradictory information about Wi-Fi versus 5G. Reichental answered that they are two separate technologies and that the projected target date for implementation of 5G is 2020. Vice Chair Cook asked about the concept of a fiber build-out being married to undergrounding of electric utilities. Vice Chair Cook asked whether we could ensure that when fiber is installed underground, the electric utility could also be undergrounded. Fong explained that generally the electric utility leads and the fiber utility follows so when electric facilities are undergrounded, fiber follows underground, and when electric facilities are constructed overhead on utility poles, fiber is also constructed overhead. This is because the construction

of electric utilities tends to be far more involved than construction of fiber facilities. Vice Chair Cook is in favor of the public safety and emergency service Wi-Fi recommendations.

Vice Chair Cook agrees with Harrington's memo advocating utility independence and limiting wireless investment until the fiber issue is resolved. He prefers to see the fiber initiative move as quickly as possible.

Commissioner Hall asked if the FTTP model in the report is similar to the electric transmission open access network where the City or some entity would own the pathway and end-lighting but not be involved with the content. The content providers would be allowed to compete with one another. Commissioner Hall asked what the \$70 per month charge mentioned in the report is for fiber access only and not content. Fleming clarified that in a closed network, the customer would pay a flat fee for both access and content. Commissioner Hall asked how we would ensure universal access for everyone. Fleming replied that within the RFI, services will be costed out and may depend on which private partner the City negotiates with for FTTP. For example, Google provides a low end service for those who cannot afford the regular service. It's essentially free for seven years but the customer is required to pay a connection fee which can be spread out over time. Some models only build where there is a high rate of return on investment. Commissioner Hall said that it is his sense the UAC wants a pathway to universal access. Commissioner Hall asked if the City had to contribute a significant amount of money to ensure universal access which would eventually be recovered on utility bills, would it require a public poll or referendum or does City Council have the authority to mandate? City Attorney Molly Stump replied that more research needs to be done depending on the type of model and partnership.

Commissioner Ballantine stated that he was torn on several points. Universal access makes sense but how do we achieve it. In terms of point #8 on Harrington's memo ("*The right thing to do right now*"), is there an opportunity to capitalize on a public private partnership or would this be a missed opportunity. How does the City set up infrastructure like fiber and maintain it? Pipes and power lines do not change out very often. Internet infrastructure is typically replaced every 2 to 3 years. If residents are disappointed by wired connections they may go to wireless services. The better purchased wireless device offers better connectivity, so it's not universal access. There needs to be a fourth bullet on slide 9 of staff's presentation or CTC's recommendation to ensure universal access while exploring the partnership models.

Commissioner Danaher said that we're still gathering a lot of new information. By end of the year, we may decide a partnership model may not make sense. In the meantime, we should think of ways to incent providers who are currently interested in building out a network we want. We have an opportunity to think creatively over the next few months.

Chair Foster stated that in 2012, staff and the UAC concluded that FTTP build costs and required take rate were too high, and that financial risk worried people. What is different now is that Google, AT&T, etc. are changing the market. If AT&T and Google come to Palo Alto it may be the end of municipal FTTP in Palo Alto. The only way to proceed is if the Council does something bold such as approaching FTTP as a "public benefit" by issuing a referendum of a city

funded FTTP and letting the voters decide. This approach would eliminate concerns about the take rate issue. How do we get to resolution? The staff report recommends delaying the issuance of an RFI for a municipal FTTP and expanding Wi-Fi to emergency responders and City facilities including public areas. However, Harrington's memo is significantly different which states the goal of FTTP is to connect all households to a city-owned network, negotiate immediately with private partners to build a city network, and limit Wi-Fi to emergency responders only.

Commissioner Eglash stated that the RFP for Wi-Fi for Public Safety and Utilities should be separate from city facilities and parks.

ACTION:

Two motions were passed as follows:

On the matter of municipal Wi-Fi, Vice Chair Cook moved and Chair Foster seconded a motion to recommend that Council direct staff to:

Issue Request for Proposal(s) (RFP) to add dedicated wireless facilities to improve communications for Public Safety and Utilities departments; and optionally for expanding Wi-Fi coverage of City facilities and public areas.

The Commission's vote was 7-0 in favor of the motion with all Commissioners participating.

On the matter of municipal FTTP, Chair Foster moved and Vice Chair Cook seconded the recommendation that Council direct staff to recommend that the Council (1) adopt the goal of making FTTP connections to a fiber network available to all Palo Alto premises as soon as reasonably possible (potentially negotiate co-build with a private network); (2) defer issuing a Request for Information (RFI) until after December 31, 2015 to determine interest from the private sector in partnering with the City to build and operate a citywide fiber-to-the-premises (FTTP) network. The intervening time between now and the end of the year should enable emerging gigabit broadband services from the private sector to be settled; (3) during the time between now and end of year, direct staff to look at possibility of offering a city-owned FTTP as a public benefit; 4) direct staff to negotiate with private ISPs to obtain their assistance with a build out of a city-owned network while City assists them with their private network build out.

Commissioner Eglash moved and Commissioner Hall seconded a substitute motion to recommend Council direct staff to:

1) Defer issuing a Request for Information (RFI) until after December 31, 2015 to determine interest from the private sector in partnering with the City to build and operate a citywide fiber-to-the-premises (FTTP) network. The intervening time between now and the end of the year should enable emerging gigabit broadband services from the private sector to be settled 2) During the time between now and end of year, direct staff to evaluate the public benefit option of offering a city-owned FTTP.

The substitute motion passed on a 4-3 vote in favor with Commissioners Eglash, Hall, Danaher and Schwartz voting for the motion and Chair Foster, Vice Chair Cook and Commissioner Ballantine voting against the motion obviating the need for a vote on the original FTTP motion.

ITEM 2. DISCUSSION: Update and Discussion on Impacts of Statewide Drought on Water and Hydroelectric Supplies

Fong offered to answer any questions and mentioned to Commissioner Ballantine that in addition to the impacts on the water utility, we also include information on the impacts of the drought on our hydro-dependent electric utility at the suggestion of Commissioner Eglash.

COMMISSIONER COMMENTS

None.

Meeting adjourned at 10:40 p.m.

Respectfully submitted,
Marites Ward
City of Palo Alto Utilities