

MEMORANDUM

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TO: UTILITIES ADVISORY COMMISSION

FROM: UTILITIES DEPARTMENT

DATE: AUGUST 31, 2016

SUBJECT: Discussion and Status Update Concerning City Initiatives on Fiber-to-the-Premises and Wireless Network Issues, Including Work Related to Potential Google Fiber and AT&T GigaPower Deployments and Co-Build Opportunities in Palo Alto

Attached is the Fiber-to-the-Premises and Wireless Network staff report that was discussed at the Policy and Services Committee meeting on August 16, 2016. The report includes status update on City Council motions concerning City initiatives on Fiber-to-the-Premises and wireless networks for Public Safety and Utilities and discussions with Google Fiber and AT&T.

ATTACHMENT

- A. Policy and Services Committee Staff Report #7174 - Fiber-to-the-Premises update on City Council Motions and Google Fiber.

PREPARED BY: DAVE YUAN, Strategic Business Manager ⁰⁴

DEPARTMENT HEAD:



ED SHIKADA
Director of Utilities



City of Palo Alto
Policy and Services Committee Staff Report

ATTACHMENT A

(ID # 7174)

Report Type: Action Items

Meeting Date: 8/16/2016

Summary Title: Fiber-to-the-Premises update on City Council Motions and Google Fiber

Title: Discussion and Status Update Concerning City Initiatives on Fiber-to-the-Premises and Wireless Network Issues, Including Work Related to Potential Google Fiber and AT&T GigaPower Deployments and Co-Build Opportunities in Palo Alto; and Finding That Such Discussion and Update are not a Project requiring California Environmental Quality Act (CEQA) Review

From: City Manager

Lead Department: IT Department

Staff Recommendation

Discussion and Status Update of City Initiatives Related to Fiber-to-the-Premise Network and Wireless Networks Including Potential Google Fiber and AT&T GigaPower Deployments in Palo Alto.

Background

On February 19, 2014, Google Fiber California, LLC (“Google”) announced its interest in building a Fiber-to-the-Premises (“FTTP”) network capable of delivering gigabit speed Internet and cable television service in most of Palo Alto. The cities of Mountain View, San Jose, Santa Clara and Sunnyvale were also included in the announcement along with eight other metropolitan areas (Atlanta, Charlotte, Nashville, Phoenix, Portland, Raleigh-Durham, San Antonio and Salt Lake City). As of June 2016, Google was working to deploy fiber-optic service in twenty-two (22) metropolitan areas in the United States.

Between February and May 2014, staff completed the *Google Fiber City Checklist*. The checklist requested comprehensive information regarding the City’s existing infrastructure and assets (e.g. public rights-of-way, aerial and underground utility routes); ways to make it easier for providers to share municipal infrastructure (e.g. utility poles, spare fiber and conduit); helping

to make construction speedy and predictable (e.g. streamlined permitting processes), and potential City-owned properties to locate Fiber Network Huts.¹

Since May of 2014, staff has been engaged with Google representatives regarding the details of a Master License Agreement (“MLA”) for use of City-controlled space on utility poles, streetlight poles and in conduit; a Master Encroachment Agreement (“MEA”) for use of the public rights-of-way and formalizing permitting processes; a Project Description, review of the potential project under the California Environmental Quality Act (“CEQA”), and terms to recover City costs associated with the project for staff time necessary to manage the anticipated large volume of activity required to process permits, utility pole attachment applications, field inspections and a wide variety of other activities related to Google building a new network from scratch.

At the Council meeting on September 28, 2015 (CMR ID #6104), the Council approved a Motion directing staff to:

- A. Adopt a preferred alternative of creating a ubiquitous fiber network in Palo Alto reaching nearly all residents with City ownership of Fiber assets as a public benefit and that goal will be revisited in the first quarter of 2016; and
- B. Request an update to the consultant’s report including:
 - a. In the Fiber-to-the-Premises (FTTP) Master Plan:
 - i. Detailed assumptions, and their impacts, used to forecast the FTTP capital additions are to be reviewed by Citizens Advisory Committee (CAC); if there is a disagreement between the consultant’s report and the CAC’s recommendation, the Staff Report to Council will highlight the discrepancy; once this is accomplished, a revised forecast is to be provided to the Council as an Action Item; and
 - b. In the Wireless Network Report:
 - i. A 20-year forecast should be provided consistent with the FTTP report; and
 - ii. The description of Scenario 1 lacked both a price forecast and fiber backhaul details for the proposed municipal properties to be served; these details should be included

¹ Based on Google’s current project description, there are no plans to locate Network Huts in Palo Alto. Palo Alto will be served by huts located in Mountain View.

in an update prior to a Request for Proposals (RFP).
Evaluate expanding wireless access in retail areas, with an option for expanding Wi-Fi coverage at City facilities and public areas as part of the RFP (Scenario 1); and

- C. Issue a Request for Proposal (“RFP”) to add dedicated wireless communications to increase communication for Public Safety and Utilities Departments (Scenarios 3 and 4); and
- D. Wireless plans will not use Fiber Funds at this time but will be revisited when Council reviews the Fiber Goals in the first quarter of 2016; and
- E. Bring a Dig-Once Ordinance; and
- F. Discuss co-build with AT&T and Google, how the City can lay its own conduit to the premise during their buildouts; and
- G. Move forward with Request for Information (“RFI”) exploring both Muni-owned model with contractors for build and ongoing operations, and public-private model with City owning fiber and private partner (such as Sonic) operating and owning electronics, considering both Google in the market and without Google in the market.

Subsequently, Council approved an additional staff recommendation at the Council meeting on November 30, 2015 (CMR ID #6301), summarized as follows:

- A. Approve staff’s plans to pursue the following work *concurrently*, given that delay in either case could foreclose future options for the City:
 - a) Response to Council Motion on Municipal Fiber and Wireless: Staff has developed the Work Plan set forth below to address, by the third quarter of 2016, the Council’s September 28, 2015 Motion (the “Council Motion”) requesting clarification and additional work in connection with the City’ Fiber to the Premises (“FTTP”) Master Plan and Wireless Network Plan; and
 - b) Third Party Provider (Google Fiber, AT&T) Negotiations: Staff is continuing discussions and negotiations with third parties considering new service deployments in Palo Alto, including both Google Fiber (potential citywide FTTP network) and AT&T (GigaPower service), and is currently targeting the end of 2015 through Q1 2016 for Council consideration of necessary agreements and approvals.
- B. Approve a temporary contract position for a *Fiber and Wireless Senior Program Manager*, dedicated to Fiber-to-the-Premises and wireless initiatives, in the amount of \$228,000 annually, \$684,000 for a period up to three (3) years.

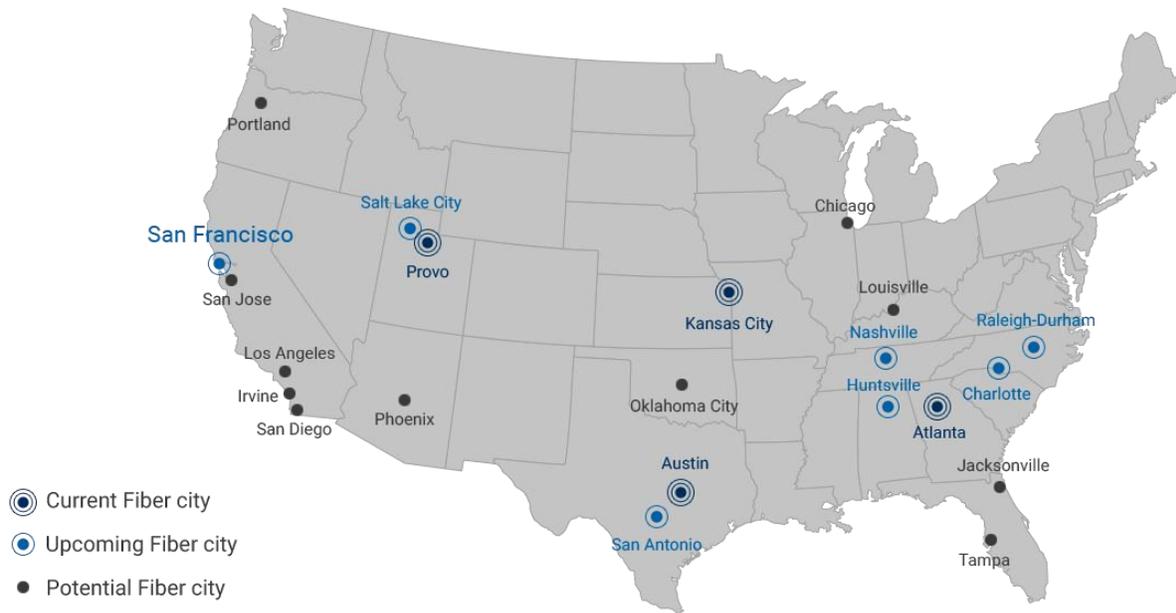
- C. Approve and authorize the City Manager or his designee to execute amendments to two contracts with Columbia Telecommunications Corporation dba CTC Technology & Energy (“CTC”) as follows:
- a) Increasing the not-to-exceed amount for Contract No. C15152568 (Wireless Network Plan) by \$94,490 from \$131,650 to \$226,140 (includes a 10% contingency for the provision of related additional, but unforeseen consulting services) and extend the contract to June 30, 2016 to develop a Request for Proposal for dedicated wireless communications for Public Safety and Utilities, in addition to evaluating the expansion of wireless access in retail areas.
 - b) Increasing the not-to-exceed amount for Contract No. C15152569 (FTTP Master Plan) by \$58,850 from \$144,944 to \$203,794 (includes a 10% contingency for the provision of related additional, but unforeseen consulting services) and extend the contract to June 30, 2016 to provide technical analysis of the RFI responses and any consulting services needed to help develop a “Dig Once” ordinance for consideration by the Council.

Discussion

Google Fiber

On July 18, 2016, a Google representative informed staff of a further delay in their FTTP network deployment plans for the Bay Area. Staff understands that it could be up to 6 months or more before Google moves forward with its network build. Google indicated that they are exploring more innovative ways of deployment that overcome some of the challenges they are facing in their current builds. It is the City’s understanding that the cities of Mountain View, San Jose, Santa Clara and Sunnyvale are also being delayed. As of July 2016, Google Fiber is continuing work on deploying fiber-optic service in eleven (11) metropolitan areas in the United States, where construction has already begun.

The following is a map that identifies Current Fiber Cities, Upcoming Fiber Cities and Potential Fiber Cities. The San Jose area, including Palo Alto, is currently identified as a “potential” Fiber City.



Co-Build Concept

At the November 30, 2015 Council meeting (CMR ID #6301), Council directed staff to move forward with discussions with Google and AT&T to explore the possibility of concurrently laying City fiber (i.e. “co-build” concept) as their build-outs occur. Since November 30, 2016, staff approached Google representatives on several occasions to explore the co-build concept and how it would work. In order to pursue a co-build with Google or any other fiber provider, the City would need to reach agreement on, among other key terms, cost sharing options, infrastructure impacts, network design scenarios, specifications and a timetable to implement.

The co-build concept is a unique and complex approach to FTTP and from what staff has learned has never been implemented before by an “overbuilder” like Google and a municipality. The overriding objective for the City would be to “pass” all premises with City-owned infrastructure as Google or another fiber provider builds its own network in Palo Alto. Examples of this type of infrastructure build out model could include installation of conduit in underground utility areas and “messenger”² on utility poles to support the installation of fiber optic cables at a future date. With Google’s FTTP deployment effort currently delayed, related discussions regarding a possible co-build concept are also on-hold.

² Messenger is a piece of heavy metal cabling attached to a pole line to support aerial cable (e.g. coaxial, copper or fiber optic cable).

Staff also reached out to AT&T representatives and discussed a similar opportunity to co-build as AT&T deploys their GigaPower Internet service in Palo Alto. As of July, 20, 2016, AT&T has not yet indicated whether this may be a possibility, but they continue to discuss internally.

Staff Work Plan Update: City Council Motion from September 28, 2015 (CMR ID #6104) and status of November 30, 2015 (CMR ID #6301) staff recommendations:

Task		Target Date	Status
1	Council requests an update to the consultant's report including:		
	a In the FTTP Master Plan:		
	Detailed assumptions, and their impacts, used to forecast the FTTP capital additions are to be reviewed by Citizen Advisors if there is a disagreement between the consultant's report and the CAC's recommendation, the Staff Report to Council will highlight the discrepancy. Once this is accomplished, a revised forecast is to be provided to the Council as an Action Item	12/31/2015	Completed. Reviewed assumptions for outside plant costs and capital additions in FTTP Master Plan with CAC and CTC on 1/21/16 and 2/18/16. CAC now in agreement with CTC's FTTP network cost estimates and there are no discrepancies to report.
	b In the Wireless Network Report:		
	i. A 20-year forecast should be provided consistent with the FTTP report	12/31/2015	Completed
	ii. The description of Scenario 1 lacked both a price forecast and fiber backhaul details for the proposed municipal properties to be served. These details should be included in an update prior to an RFP. <i>Evaluate expanding wireless access in retail areas, with an option for expanding Wi-Fi coverage at City facilities and public areas as part of the RFP (Scenario 1);</i>	9/30/2016	The draft RFP(s) and cost estimates are currently being completed by staff for the following: <ol style="list-style-type: none"> 1. Extension of existing City Wi-Fi to unserved City facilities & public areas/parks 2. Evaluation of expanding Wi-Fi access in retail areas
2	Issue RFP to add dedicated wireless communications to increase communication for Public Safety and Utilities departments (Scenarios 3 and 4)	9/30/2016	The draft RFP(s) and cost estimates are currently being completed by staff for the following: <ol style="list-style-type: none"> 1. Citywide Mobile Data Network for Public Safety

			2. Point-to-Multipoint Network for Secure City Enterprise Access (Public Safety & Utilities)
3	Direct Staff to bring a dig-once Ordinance;	Fall/Winter 2016	The CTC draft report was provided on 5/16/16. The report evaluates existing dig once models from other municipalities and provides recommendations for the City to consider. The CAO, in consultation with cross-departmental staff, is currently reviewing the recommendations contained in the report.
4	Direct Staff to discuss co-build with AT&T and Google how the City can lay its own conduit to the premise during the buildouts;		
	a AT&T	9/30/2016	The City met with AT&T representatives to discuss a co-build opportunity as AT&T deploys their GigaPower Internet service in Palo Alto. Follow up discussions have occurred. Provided co-build proposal overview to AT&T on 3/25/16. As of 7/20/16 there has been no update.
	b Google	TBD	At Google's request, the discussion regarding deployment of FTTP for the 5 proposed Bay Area cities the discussions to identify the feasibility of various joint build opportunities and the potential deployment of Google Fiber in Palo Alto are on hold while they examine new, innovative methods for fiber deployment.
5	Move forward with RFI exploring both Muni-owned model with contractors for build and ongoing operations, and Public—private model with City owned fiber and private partner (such as Sonic) operating and owning electronics, considering both Google in the market and not.	6/30/2016	Completed. CTC is currently reviewing the 8 RFIs received.

6	Approve a temporary contract position for a Fiber and Wireless Telecommunications Project Manager, dedicated to Fiber-to-the-Premises and wireless initiatives, in the amount of \$228,000 annually, \$684,000 for a period up to three (3) years	9/30/2016	Interviews have been completed and the final 2 candidates have been identified. References are currently being checked and the final decision is expected along with the extension of an offer letter is expected in August.
7	Approve and authorize the City Manager or his designee to execute amendments to two contracts with Columbia Telecommunications Corporation dba CTC Technology & Energy ("CTC") as follows		
a	Increasing the not-to-exceed amount for Contract No. C15152568 (Wireless Network Plan) by \$94,490 from \$131,650 to \$226,140 (includes a 10% contingency for the provision of related additional, but unforeseen consulting services) and extend the contract to June 30, 2016 to develop a Request for Proposal for dedicated wireless communications for Public Safety and Utilities, in addition to evaluating the expansion of wireless access in retail areas	12/31/2015	Completed, amendment finalized on 1/6/16.
b	Increasing the not-to-exceed amount for Contract No. C15152569 (FTTP Master Plan) by \$58,850 from \$144,944 to \$203,794 (includes a 10% contingency for the provision of related additional, but unforeseen consulting services) and extend the contract to June 30, 2016 to provide technical analysis of the Request for Information (RFI) responses and any consulting services needed to help develop a "Dig Once" Ordinance for consideration by the Council	12/31/2015	Completed, amendment finalized on 1/6/16.

Timeline

The deployment of Google Fiber in the City of Palo Alto has been delayed for up to 6 months or more. Google indicated that they are exploring more innovative ways of deployment that overcome some of the challenges they are facing in their current builds.

The work on the Council Motions continues and is expected to be completed by the end of

Calendar Year 2016.

Environmental Review

The discussion and status update concerning City initiatives related to FTTP Network and Wireless Networks and potential Google Fiber and AT&T GigaPower deployments in Palo Alto is not a Project requiring California Environmental Quality Act review.