



# City of Palo Alto

## City Council Staff Report

(ID # 5679)

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**Report Type: Informational Report**

**Meeting Date: 6/29/2015**

**Summary Title: Fiber-to-the-Premise Master Plan and Wireless Network Plan**

**Title: Council Update on the Fiber-to-the-Premise Master Plan and a Complementary Wireless Network Plan by Columbia Telecommunications dba CTC Technology & Energy for Consulting Services, Including the Status of the City's Participation in the Google Fiber City Checklist Process**

**From: City Manager**

**Lead Department: IT Department**

### **Recommendation**

This report is provided to the City Council for its information only. No action is required.

### **Executive Summary**

This staff report will provide an update on the Fiber-to-the-Premise (“FTTP”) Master Plan to build out the existing dark fiber optic backbone system (“fiber system”) and the Wireless Network Plan with a near-term focus on Wi-Fi, and a long-term consideration of other wireless technologies.

Following Council approval on February 2, 2015, the City provided CTC Technology & Energy (“CTC”) with a notice-to-proceed to develop the FTTP Master Plan and the Wireless Network Plan.

To recap, the primary objectives of the FTTP Master Plan are as follows:

1. Provide the City with essential information and data to set its goals and objectives to facilitate the deployment of a FTTP Network in Palo Alto;
2. Develop an inventory and assessment of City assets and infrastructure required to support the deployment of a FTTP Network;
3. Evaluate the impacts a FTTP Network will have on City rights-of-way, City-owned utility poles, conduits, streetlight poles, fiber system and real property;
4. Define and evaluate FTTP Network requirements;
5. Define services and technologies offered on the FTTP Network;
6. Prepare an engineering study and FTTP Network design, deployment cost model and potential business models to build and operate a citywide network;

7. Provide the Council with findings and recommendations regarding the feasibility of building a FTTP Network and the best business model to pursue this goal;
8. Assist City staff in writing a Request for Proposal (“RFP”) to build a citywide FTTP Network based on City Council review and approval of the findings and recommendations in the Master Plan, and further direction from the Council to proceed with issuing an RFP.

To recap, the primary objectives of the Wireless Network Plan are as follows:

1. Define the fundamental action steps required to develop a wireless broadband initiative for the City, including an assessment of how the existing Fiber System and other supporting municipal infrastructure can be leveraged and maximized to deploy Wi-Fi and/or a citywide wireless network;
2. Conduct a user group “needs assessment” for a wireless network among all City departments and also assess the need for an amenity-grade or subscription-based Wi-Fi service for the general public and businesses;
3. Based on the user group needs assessment, recommend wireless technology options and design considerations for either a multi-use network (municipal, public safety and public access), or a network with a more limited scope;
4. Analyze the advantages and disadvantages of the various business models used to deploy municipal wireless networks and make a recommendation based on the needs of the City and various potential users of the network;
5. Upon completion of the Wireless Network Plan, and in consultation with City staff, present the findings and recommendations in the plan to the Council. Contingent upon Council direction to proceed, develop an RFP for a vendor to build a Wi-Fi system and/or a citywide wireless network.

The timeline for the FTTP Master Plan and the Wireless Network Plan as determined by the City and the vendor is on-schedule.

### **Background**

At the February 2, 2013 City Council retreat, the Council chose “Technology and the Connected City” as one of its three top priorities for 2013. On March 22, 2013, the Council’s Technology and the Connected City Committee (“Council Committee”) was created. Council Member Kniss was appointed as the Committee Chair, in addition to then-Vice Mayor Shepherd and then-Council Member Klein. Utilities Advisory Commission (“UAC”) then-Chair James Cook and then-UAC Commissioner Asher Waldfoegel were appointed as UAC liaisons to the Council Committee.

On June 24, 2013, the Council approved the Council Committee’s recommendation to develop a work plan to evaluate the feasibility of building a citywide FTTP Network and requested the City Manager to appoint a Citizen Advisory Committee (“Advisory Committee”) to assist in the evaluation (Reference CMR ID #3914). On October 28, 2013, the Council approved the Council Committee recommendation (Reference CMR ID #4203) to:

1. Develop a FTTP Master Plan and conduct a request for proposals (“RFPs”) to build out the existing dark fiber optic backbone system in Palo Alto; and
2. Develop a complementary Wireless Network Plan with a near-term focus on Wi-Fi, and a long-term consideration of other wireless technologies.

At the annual City Council retreat on February 1, 2014, the Council voted 7-2 not to reappoint the Technology and the Connected City Council Committee. In the future, the full Council will review and approve the work related to the Technology and the Connected City initiative and rely on staff and the Advisory Committee to develop findings and recommendations based on the outcomes of the FTTP Master Plan and a complementary Wireless Network Plan.

On February 18, 2014, the City Manager appointed nine (9) City residents to serve on the Advisory Committee. The Advisory Committee has met eight times since the committee was established, and plans to meet every two months for the remainder of 2015. At this time, there are six active members remaining on the Committee. The committee members are: Richard Brand, Bob Harrington, Andrew Kau, Donn Lee, Christine Moe and Andy Poggio.

Staff developed RFPs to retain consulting services for the FTTP Master Plan and the Wireless Network Plan. Development of the RFPs was assisted by the members of the Advisory Committee. During the week of September 8, 2014, four vendor interviews were conducted. On February 2, 2015, the Council approved and authorized the City Manager to execute two Professional Services contracts in amounts not-to-exceed \$144,944 and \$131,650 to Columbia Telecommunications, dba CTC Technology & Energy, for a Fiber-to-the-Premise Master Plan and a complementary Wireless Network Plan respectively; and adopt a Budget Amendment Ordinance to allocate funding in the amount of \$276,594 from the Fiber Optics Fund Rate Stabilization Reserve to fund the development of the plans (Reference CMR ID # 5443).

### **Discussion**

CTC has assigned a project manager for each plan. Staff meets with CTC personnel on a weekly basis to review the progress of the development of the two plans.

#### Fiber-to-the-Premise Master Plan

During the week of March 16, 2015, CTC’s project manager for the FTTP Master Plan visited the City to collect information and conduct interviews with City staff to prepare the plan. The visit included a “kick-off” meeting with staff from several City departments and several members of the Advisory Committee to review the scope of work and timetable for the project.

During the visit, the project manager conducted interviews with staff from several departments (Administrative Services, City Attorney, Development Services, Information Technology, Office of Emergency Services, Planning and Community Environment, Public Works and Utilities) to collect documents and information about City infrastructure (e.g. fiber system, utility poles, conduits, easements and real property); State and local regulations affecting aerial and underground construction for new telecommunications plant; construction methods and

standards; “make-ready” work required to attach new telecommunication facilities on utility poles; municipal codes, policies and procedures affecting the use of City-owned rights of way for FTTP deployment; processes for permitting and inspections, and project review requirements under the California Environmental Quality Act (“CEQA”). All City documents and information provided to CTC are under a non-disclosure agreement.

#### Wireless Network Plan

During the week of April 20, 2015, CTC’s project manager for the Wireless Network Plan visited the City to collect documents and information to prepare the plan. A kick-off meeting with staff and the Advisory Committee was held, and interviews were completed with the staff of several City departments for the purpose of conducting a “user needs assessment” for Wi-Fi and other wireless technologies and applications. The project manager met with staff from the following departments: City Manager, Development Services, Information Technology, Office of Emergency Services, Planning and Community Environment, Public Works and Utilities. Field visits to review City infrastructure were also conducted (e.g. streetlight and traffic signal poles, utility poles, Mobile Emergency Operations Center and City Hall rooftop) to evaluate City-owned assets required to site wireless communication facilities such as antennas and other equipment.

As a result of the site visits from CTC’s project managers, there will be additional information requests and staff interviews as the project progresses.

#### Citizen Advisory Committee

On April 30, 2015, the President of CTC met with the Advisory Committee to review the status of the project and provide a presentation regarding the various business models for municipal broadband, case studies from other communities, and strategies local governments can implement to ensure the deployment of next-generation high-speed broadband networks.

#### Project Timetable

The final reports from CTC for the FTTP Master Plan and Wireless Network Plan will be completed in early July. Staff anticipates reviewing the reports, including CTC’s findings and recommendations, with the Council in September or October 2015.

#### Google Fiber Update

On January 27, 2015, Google selected Atlanta, Charlotte, Raleigh, Durham, and Nashville as the next markets that will receive Google Fiber deployments. On March 24, 2015, Google announced it would be expanding Google Fiber into Salt Lake City. Google is still evaluating expansion plans in Portland, Phoenix, San Antonio and the San Jose Metro area, including the cities of Palo Alto, Mountain View, Santa Clara, Sunnyvale and San Jose. Google has already deployed fiber in the Kansas City metro area and construction of a Google fiber-optic network is underway in Austin, Texas. In 2013, Google bought an existing municipal fiber-optic network in Provo, Utah.

On August 11, 2014, Council adopted a staff recommendation to approve a Master License Hut License Agreement, which would allow for the placement of one or two Google “Fiber Huts” on individual city-owned sites, subject to the City Council’s approval of such individual sites and applicable site-specific terms (Reference CMR ID # 4726). Staff is currently reviewing potential sites, taking into consideration concerns about land use appropriate for such a hut facility. This review includes: short-term and long-term plans for use of the land based on *The Palo Alto Comprehensive Plan*, security, facility access, approval processes and procedures, including permitting requirements and review by the Planning and Community Environment Department and the Architectural Review Board, and community feedback.

On March 11, 2015, staff met with Google Fiber representatives to discuss utility pole attachments for telecommunications facilities and use of public rights of way in Palo Alto and the applicable agreements.

As of the week of May 18, 2015, Google has requested additional discovery meetings with City staff.

#### Utilities Advisory Commission

Staff provided updates regarding the FTTP Master Plan, Wireless Network Plan and Google Fiber on August 6, 2014 and April 1, 2015.

#### **Resource Impact**

The development of the FTTP Master Plan and Wireless Network Plan is under the direction of the Chief Information Officer. Approximately 1.75 FTEs are assigned from the Information Technology and Utilities Departments to develop the plans.

#### **Policy Implications**

The recommendation to prepare a FTTP Master Plan and Wireless Network Plan is consistent with the Telecommunications Policy adopted by the City Council in 1997, to facilitate advanced telecommunications services in Palo Alto in an environmentally sound manner (Reference CMR: 369:97 - Telecommunications Policy Statements).

#### **Environmental Review**

The development of an FTTP Master Plan and a Wireless Network Plan are not projects under the California Environmental Quality Act (“CEQA”) as feasibility and planning studies are exempt under CEQA Guidelines Section 15262.