

Palo Alto Fiber Project and Construction Alignment with Electric Grid Modernization

November 7, 2023



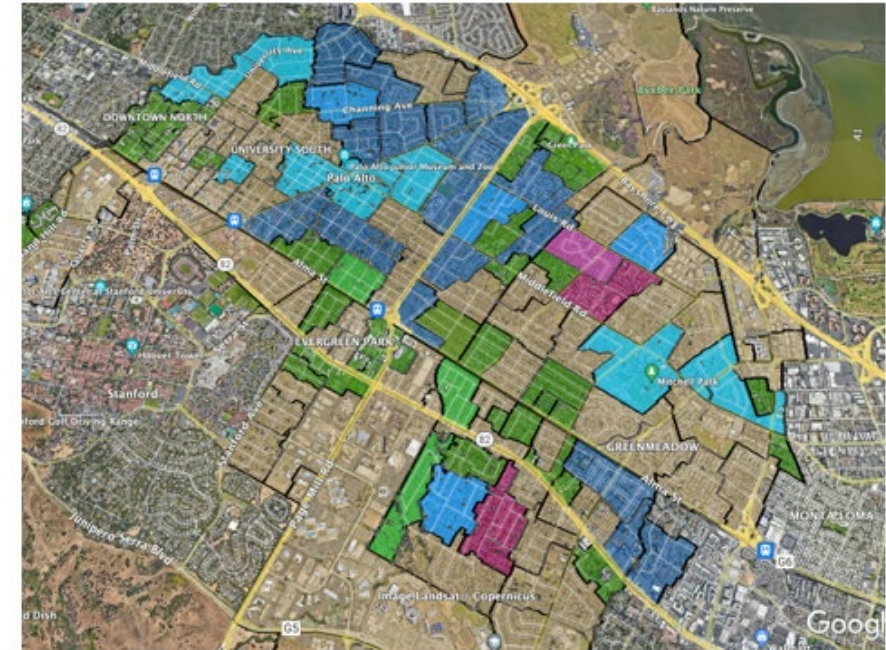
AGENDA



- Project(s) Recap
 - Fiber Expansion Plan
 - Fiber Backbone Expansion “Rebuild” Project
 - Fiber-to-the-Premises (FTTP) Project
 - Electrification
 - Grid Modernization for Electrification Project
- Informational Updates
 - Alignment of Fiber Expansion Plan and Grid Modernization
 - California Environmental Quality Act (CEQA) Initial Study
 - Joint Pole Ownership Coordination with AT&T
 - Contract Amendments
 - Other Updates

HOW DID WE GET HERE?

- **What has Council Approved?**
 - **Dec 19, 2022 Council Approved to**
 - Proceed with dark fiber backbone expansion “rebuild”
 - Build FTTP Phase 01 in multi-phased approach without debt financing
 - **Jun 19, 2023 Council Approved**
 - New Grid Modernization for Electrification project in FY24 Budget
 - New Fiber-to-the-Premises project in FY24 Budget



RECAP OF PROJECTS



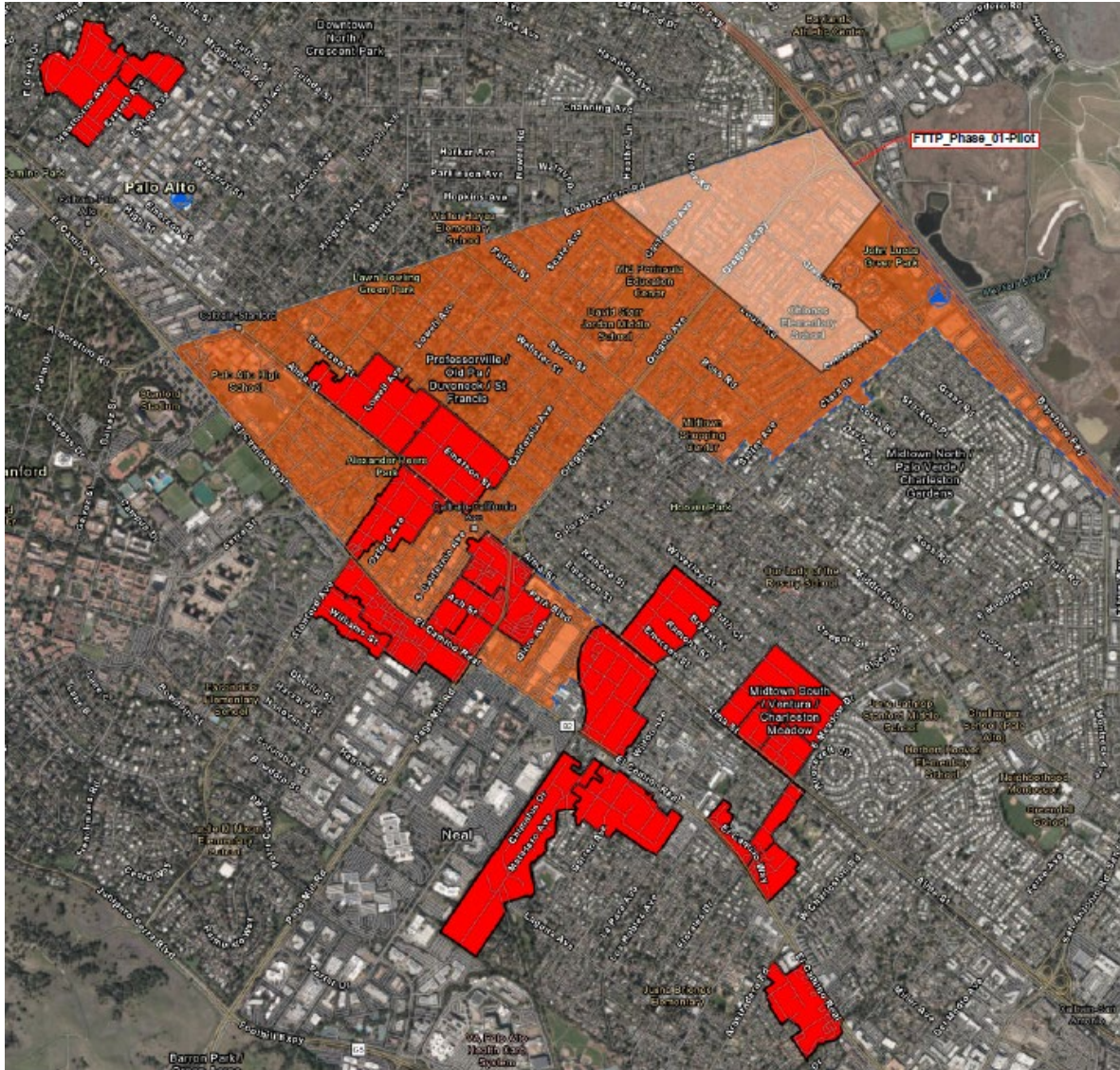
FIBER BACKBONE REBUILD	FIBER-TO-THE-PREMISES	GRID MODERNIZATION
Estimated cost \$25.6M (FO-16000)	Estimated cost for Phase 1 \$20M; Citywide \$102M (FO-24000)	Estimated cost \$220M to \$306M (EL-24000)
Funded by Electric and Fiber funds	Funded by Fiber Fund	Funded by the Electric Fund; debt financing and/or grants
Supports the City's fiber licensing service and internal needs: <ul style="list-style-type: none">Improve fiber and electric system reliability, security and capacityEnable more connectivity for City departmentsInternal communication needs for SCADA, AMI, DA and other critical infrastructure	Supports the City's high speed broadband internet needs: <ul style="list-style-type: none">Provides City-owned high-speed internet serviceProvides new capacity for dark fiber licensingCommunity investment in its own broadband network	Supports City's S/CAP goals and future demand <ul style="list-style-type: none">100% residential electrificationUpgrade existing substations, replace transformers, convert existing 4 kVa lines to 12 kVa to increase capacity and meet future demand.

INFORMATIONAL UPDATES

Topics to address prior to construction

- ✓ **Pilot aligning fiber and grid modernization project to inform on**
 - Pole make-ready and replacement
 - Material lead time and warehousing
 - Internal resources to implement and coordinate projects
- ✓ **Initial Study for CEQA in progress to evaluate potential impacts**
 - Identify physical, biological, social and economic factors
 - Provide mitigation efforts
- ✓ **Joint Pole Ownership Coordination with AT&T in progress**
 - Approximately 5,550 poles shared with AT&T
 - Upcoming replacements and coordination will overwhelm staff
 - Eliminated Northern California Joint Pole Association membership option
- ✓ **Contract Amendments**
 - VIP Powerline – power and fiber construction
 - MP Nexlevel– substructure and fiber construction
 - Magellan/Entrust– power and fiber engineering design

Pilot Map Overlay with Phase 1 & Areas of Interest



Pilot Area Map to align Grid Modernization with FTTP
(1,224 customers and 409 poles)



Proposed Phase 1 FTTP Map (Additional 5,560
customers and 1,241 poles)



Areas of Interest Map based on Lower Construction
Cost, Higher Density, Less Competition, Higher
Customer Interest

Pilot Project Plan (draft outline subject to change)



✓ **Pre-construction**

- Aerial Power Make Ready Engineering - Feb 2024
- Materials Ordering/Warehousing - Feb 2024
- CEQA Approval - Apr 2024
- Fiber Hut at Colorado Power Station - Oct 2024

✓ **Construction**

- Power: Mar 2024 - Oct 2024
- Fiber: Jun 2024 - Feb 2025

✓ **Operations & Customer Outreach**

- Operations Support Systems “OSS”
- Business Support Systems “BSS”
- Marketing/Event(s)
- Community Meeting(s)

Q&A