

From: [REDACTED]
To: -- City Clerk; -- City Council; Bolt, Christopher; Ellis, Evelyn
Subject: A How-to Brief for Setting Up City Fiber Optic Utility
Date: Thursday, October 6, 2022 8:35:47 AM

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Dear City Council, Public Works Director, City Clerk, Climate and Planning Commissioners, and GPAC members:

This is a public comment for the next meetings of the City Council, GPAC, and Climate and Planning Commissions.

The community of Petaluma requests the City's formal consideration of the attached Brief. This Brief outlines how Petaluma can take steps to set up a municipally-owned Fiber Optic Utility to secure the fastest, safest, and most energy-efficient "fiber to the premises" (FTTP) for all Petalumans while generating revenue for our City.

As you will note: this Brief is endorsed by multiple utilities, including technology, environmental, and health organizations.

Thank you for working for the best for Petaluma.

Mima Cataldo

On behalf of the following residents who endorse this plan for the City.

Christie Achor
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Bernie Album
Beverly Alexander
Julia Allen
Ana Anzore
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Julie Baird
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Joy Robinson
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Brianna Schaefer
Lydia Schindler
Steve Schramm
Marti Shortridge
Dina Shriver
Scott Springhorn
Emily Spilkin
Kate Stowe
Moirra Sullivan
Ember Teijeiro
James Thomas
Justine Tyree
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Tracy Walker
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A City of Petaluma Fiber Optic Network Overview Brief

August 2022

“Cities around the United States have begun the journey to greater innovation, economic development and improved social interaction on the platform of all fiber networks. We are now at a remarkable tipping point, where access to power has been replaced by access to bandwidth, the infrastructure of the 21st Century knowledge economy.”¹

Petaluma Deserves the Fastest, Most Affordable, Safest, Most Secure and Climate Resilient Broadband.

Fiber Optic Broadband is Superior Technology with Superior Benefits:

➤ **Economic Development Benefit:**

- Fiber Optic delivers superior Broadband: “Gigabit Internet” – by far, the most superior than any other connectivity technology.
- Billions in State and Federal funding (grants) are available to build municipal Fiber-Optic networks: the NTIA has determined that priority Broadband projects are those that use end-to-end Fiber Optic architecture.²
- Many California communities generate revenue via Municipal-Owned Utility or City-Private Partnership business models, such as with Google Fiber.

➤ **Social Equity Benefit:** Fiber Optic offers comprehensive social and economic advantage: FTTP (Fiber-To-and-Through-All-Premises) comprehensively addressing the Digital Divide to service underserved, unserved and the entire community with superior, safe and secure connectivity for every Petaluma business, resident, school, and public property.

➤ **Climate and Environmental Justice Benefit:** Fiber Optic infrastructure is flexible and offers ancillary benefit opportunities such as reduced electric draw and moving overhead power and phone lines underground, as outlined by CPUC as well as for fire safety and tree canopy promotion (in/adjacent to water and sewer pipes, or microtrench).

¹ <https://starterkit.fiberbroadband.org/>

² https://www.telecompetitor.com/ntia-bead-program-funding-notice-nofo-prioritizes-fiber-broadband/?fbclid=IwAR20cP_WyPOV6wyza_FvptWthP_HlJu_veu5MXVFXtmrIL9IE5nmdyJaNnuc

Why Are Cities in California and Across the Country Increasingly Installing Fiber Optic Networks?

US cities are investing in wired Fiber Optic infrastructure in order to strengthen competitive advantage and economic growth and to bridge the Digital Divide. Increasing demand from population, usage behavior, and Internet functionality growth have shown DSL and wireless networks are not as fast, secure, reliable, affordable, or energy-efficient as

Fiber Optic networks.

Competitive Advantage:

"[The Internet] is our central medium for commerce and communication—but more importantly—for our public discourse, engagement, and democratic governance. ...[however,] the Internet is not living up to its potential. It has been hijacked by the commercial motivations that have come to re-define and constrain the availability, quality, content, and media of high-speed access in the United States...While other countries are investing to assure citizens' access to a fast and reliable information highway, U.S. legislators appear asleep at the switch, captured by the wireless industry and its lobbyists."

Dr. Timothy Schoechele, National Institute for Science, Law & Public Policy³

Economic Advantage:

"...a 2014 Fiber Broadband Association study found higher per capita GDP (1.1%) in communities where gigabit Internet was available. In dollar terms, the 14 gigabit communities analyzed by the Fiber Broadband Association enjoyed approximately \$1.4 billion in additional GDP over other, similarly situated communities."⁴

Fiber Optics is Superior:

- Fiber-to-the-home – the President's stated priority, offers fully symmetrical multi-gigabit service, less opportunity for congestion because of backhaul limits, better reliability in bad weather, no chance of signal obstruction by vegetation or buildings and lower aesthetic impacts that contribute to visual blight.
- It is more secure and presents lower risks from electrical fires. Fiber has almost infinite capacity; it is limited only by the capabilities of the equipment at each end.
- The Total Cost of Ownership (TCO) is far less than the cost of wireless in a 10-year window.
- Fiber is future proof – it will last decades when wireless lasts far less.

Wireless is Inferior:

- Wireless does not "provide comparable speeds, capacities, latency, and other quality of service metrics in a given area, for comparable terms and conditions" in comparison to fiber to the home (See 47 U.S.C. §1754(a)(2)).
- Wireless will not adequately address Digital Discrimination "based on income level, race, ethnicity, color, religion, or national origin" (47 U.S.C. §1754(b)(1)) or fulfill the needs of the disabled.
- Wireless systems have high energy consumption and far more greenhouse gas emissions, thereby contributing to existing climate issues.

Municipal fiber to the premises Broadband grew 600% 2018-2022, with over 600 communities served by a municipal network.⁵ "Municipal Broadband has no legal impediments in California after AB 1999 was signed into law in 2018 by then CA Governor Jerry Brown (D). There are 17 municipal broadband providers in California as of 2022, which will rise to 18 when Beverly Hills Fiber starts signing customers later in 2022. Dark Fiber is the most common type..."⁶

Next Steps for a City of Petaluma Fiber Optic Network

1. Pause current Petaluma Telecommunications Ordinance work
2. Review and engage "Resources," listed below, for presentations/workshops for City Council

³ <https://gettingsmarteraboutthesmartgrid.org/wires.html>

⁴ <https://starterkit.fiberbroadband.org/page/economic-impact>

⁵ <https://www.governing.com/now/should-states-fund-municipal-broadband-and-cooperatives>

⁶ <https://www.connectcalifornia.com/internet-service/municipal-broadband-providers>

3. Explore Smart Meter Upgrade/Purple Pipe project for strategies to align with a City of Petaluma Fiber Optic Network and include accommodations for people to opt out (e.g., EHS disability)
4. Send Economic Development staff to the 2023 Broadband Communities Economic Development Conference
5. Adopt transparent process; appoint community committee to drive public engagement; include CC, PC, TAC, GPAC, CAC

Resources

Experts/Consultants to Guide Establishing Fiber Optic Utility

- Coalition for Local Internet Choice; <https://www.benton.org/sites/default/files/partnerships.pdf>
 - *“Local governments, in particular, increasingly embrace opportunities to develop next-generation broadband in their communities—and to reap the many benefits that broadband will deliver to their residents and businesses. Emerging public–private partnership (P3) models present a promising alternative to the traditional “municipal broadband” or “middle mile” models for the many communities that lack the capital or expertise to deploy and operate fiber networks, or to act as Internet service providers (ISPs) on their own.”*
- Institute for Local Self-Reliance; Christopher Mitchell, Leading national expert on municipal broadband utilities, Internet access, and local policy; <https://ilsr.org/broadband-2/>; <https://muninetworks.org/content/about-us>
 - Promotes locally rooted, democratically accountable broadband networks that provide fast, affordable and reliable Internet access to all Americans.
- Fiber Broadband Association: *“If it isn’t fiber, it isn’t broadband,”* <https://www.fiberbroadband.org>
 - How-to info on city policymaking, economic impact, becoming Fiber ready, federal resources, state resources, funding, the RFP / RFI / RFQ process, contracting and selecting provider partners: <https://starterkit.fiberbroadband.org/page/economic-impact>
- National Institute for Science, Law & Public Policy: *“Re-Inventing Wires: The Future of Landlines and Networks,”* download: <https://gettingsmarteraboutthesmartgrid.org/pdf/Wires.pdf>
 - Guides policymakers on wired infrastructure, examines current impediments to competition, and the importance of net neutrality for ensuring fair, equal, and affordable information access for all. Explains the renaissance that has occurred in wired technologies in recent years and how these advances offer dynamic potential for sustainable US connectivity.
- HR Green; <https://www.hrgreen.com/services/fiber-and-broadband/utilities-and-cooperatives/>
 - Helps “utilities and electric cooperatives assess the market potential of future services, inventory and manage existing assets, study feasibility and alternatives, design fiber networks, comply with funding programs, manage construction, and oversee ongoing operations.”
 - Broadband Strategic Planning
 - Communications Master Planning
 - Grants + Funding
 - Fiber Optic Engineering + Design
- The Municipal and Utility Guidebook to Bringing Broadband Fiber Optics to Your Community; https://www.academia.edu/9091269/The_Municipal_and_Utility_Guidebook_to_Bringing_Broadband_Fiber_Optics_to_Your_Community

Funding

- NTIA Notices of Funding Opportunity (NOFO) for three Infrastructure Act broadband programs: the \$42.5B for Broadband Equity, Access and Deployment (BEAD), \$2.65B Digital Equity Act, and \$1B Middle Mile Broadband Infrastructure programs; <https://www.telecompetitor.com/ntia-bead-program-funding.../>
 - NTIA has determined that “Priority Broadband Projects” are those that use end-to-end fiber-optic architecture.
- NTIA’s searchable database of 50 federal Broadband programs, spanning a dozen federal agencies with billions of dollars for Broadband grants, loans and other resources: <https://broadbandusa.ntia.doc.gov/resources/federal/federal-funding>

Video

- Video on City-owned Fiber Optic Utility trend:
https://www.youtube.com/watch?time_continue=95&v=jWcBftCOxEc&feature=emb_logo