



CITY COUNCIL AGENDA REPORT

DATE: 4/27/2017

AGENDA OF: 5/9/2017

DEPARTMENT: Economic Development

SUBJECT: I-Net Strategy Update and Resolution to Approve City Council Policy 28.2
Trenching in City Rights of Way; Pavement Life Span Preservation (ED)

RECOMMENDATION: Motion to accept update on draft Institutional-Network (I-Net) Strategy report; and

Resolution approving the Trenching in City Rights of Way; Pavement Life Span Preservation City Council Policy 28.2.

BACKGROUND: Since 2011, City Council has pursued broadband policies and opportunities to increase both private and public investment in fiber-optic networks. Recognizing fast, affordable, and accessible internet as a fundamental utility for the City of Santa Cruz (City) and creating a key differentiator for sustaining a strong local economy in the twenty-first century, the City pursued policies as a part of an overall Broadband Master Plan.

The Broadband Master Plan includes three primary policy components: 1) a dig once policy to coordinate, as much as possible, joint utility trenches for all telecommunications work performed in the public right-of-way 2) create a master lease agreement for telecommunications providers to lease City-owned land or assets, such as streetlight pole space, for the location of network equipment, and 3) identifying Harvey West and Westside Industrial Areas as priority development target areas for fiber optic investment to benefit business.

In 2015, the Broadband Master Plan policy shifted significantly to a large-scale utility project when Cruzio Internet, Inc. (Cruzio) approached the City of Santa Cruz with a proposal to partner on building a fiber optic network that would reach every home and business in the city (often called a ubiquitous network). Without such an approach with public investment, it is highly unlikely that the private sector would ever invest in providing high-speed internet to every property, especially properties in lower income neighborhoods, thereby exacerbating the market effect called “the digital divide” where investment is unevenly distributed and neighborhoods do not have equal access to fast internet. Motivated to accomplish the goals of universal access to fast, affordable internet with a sustainable business model, the City pursued ways to share risks and rewards with Cruzio through a joint project.

On June 23, 2015, City Council directed staff to analyze the feasibility of financing and constructing a citywide network with a minimum 1 gigabit download speed (at least 1,000

megabits per second). Estimated at \$45-\$52 million using lease-revenue bonds, the project aimed to be the first medium-sized city in the United States with a publicly-owned fiber optic network that reaches every home and business. On December 8, 2015 and June 28, 2016, City Council further directed staff to negotiate with Cruzio to finalize an agreement. Also on June 23, 2016, City Council appointed a subcommittee to provide feedback to City staff. Despite negotiating in good faith, City staff and Cruzio were unable to reach a final contract with mutually agreeable terms mitigating risk to both parties.

Without an agreement, the City Council Subcommittee advised City staff to refocus efforts on completing the Broadband Master Plan to improve broadband policies in general. Staff reviewed the dig once policy with utilities, telecommunications providers, and all City departments. Despite not releasing a Request for Information (RFI) to see if other Internet Service Providers (ISPs) and fiber optic network developers may be interested in working with the City of Santa Cruz, since the end of 2016, the City of Santa Cruz has received two unsolicited proposals from international broadband developers as well as general inquiries from two other providers.

While the initial negotiations with Cruzio were ultimately unsuccessful, the market responded with improved speeds and some investment to meet demand for faster internet connections. In August 2015, Comcast's Xfinity internet service increased speed countywide up to 150 megabits per second. In the spring of 2016, AT&T submitted for encroachment permits to install several GigaPower cabinets on the Eastside with construction currently underway to provide gigabit-level service to a portion of residents and businesses.

DISCUSSION: In the fall of 2016, Cruzio shared its desire with the City of Santa Cruz to finance and build its own fiber optic network in Downtown Santa Cruz, primarily serving businesses. Cruzio aims to grow this network over time to reach other parts of the City of Santa Cruz. Meanwhile, employing dig once best practices, City staff pursued a financial feasibility analysis for the City to install its own fiber optic network to take advantage of the opportunity to coordinate with Cruzio for the upcoming Downtown network buildout.

I-Net Financial Feasibility

I-Net is an abbreviation for “institutional network” and is the common phrase for municipal network access for public services that are obtained through a franchise agreement with a cable company. The current Comcast agreement covering the City's I-Net expires in 2021. Upon expiration, the City will have to pay market rate for internet services. Currently the City pays \$1 per year in order to have internet and networking provided to the Corporation Yard, County Building (for City services), Fire Station #2, Loudon Nelson Community Center, and the Police Department and other sites. When the I-Net agreement expires, the cost will likely increase to \$200 per month per site. In order to provide predictable pricing, superior speed, and maximize internet security and City control, the City's broadband consultant Columbia Telecommunications Corporation (CTC) examined the cost benefits of the City investing in its own fiber optic network, so the City is no longer dependent upon leasing pathways from providers—which currently include Comcast, AT&T, and Cruzio—in order to connect City facilities to the internet.

The draft CTC I-Net Strategy report analyzes:

- Connecting all 27 designated City sites will require 12.6 route miles of fiber
- The cost of building, operating, and maintaining the network

- Financial model of cash neutral vs cash positive by the end of year three
- The cost includes extra conduit which can be leased to third parties and can enable the City to develop public-private partnerships to encourage more internet infrastructure investment beyond the I-Net
- The high-level design includes connecting the Graham Hill Road Water Treatment plant, which could provide an alternative site for location and/or backup of the City's technology information
- Negotiating an agreement with Sunesys/Crown Castle is the most effective way to network the Bay Street Reservoir and nearby pump station by using existing aerial fiber lines on High Street

In CTC's analysis, the firm sought to maximize the use of existing City resources to decrease the cost of construction by connecting to City fiber at City Hall and the Locust/Union Street administrative building. The cost estimate includes engineering, project management, electronics, construction, quality assurance, building connections, ongoing maintenance and City staff. Staff is currently analyzing the draft report in consultation with CTC.

Coordinating with Cruzio's separate Downtown network project is essential to save on long-term internet costs and reduce inconvenience. The I-Net also provides an attractive network that can be leveraged to further private investment in a future network build that could be citywide in scope. Finally, the draft report provides a master map plan for the conduit pathways (often called "outside plant") along with a priority checklist so City staff can consistently evaluate and coordinate work across departments to build the network and also more adequately evaluate dig once opportunities that could help complete or compliment the I-Net design.

Staff recommends City Council accept the update on the draft I-Net Strategy report.

Dig Once

"Dig once" is the broadband internet policy term for municipalities encouraging internet infrastructure investment by: 1) reducing costs by setting a limited period of time where any and all interested parties can join the "dig", open trench, or directional bore so economies of scale can help save on the significant cost of labor required to open the pathway in the road, 2) prevent unnecessary duplicate work in the public right-of-way to reduce City maintenance costs degrading the road structure, and 3) minimize traffic disruption to the community.

Beginning in September 2016, City staff reached out to the internet and telecommunications industry and, internally, to the Water, Public Works, and Information Technology Departments to review the proposed City Council Policy 28.2 Trenching in City Rights of Way; Pavement Life Span Preservation (Pavement Life Span Policy, see Attachment B).

Integrating comments from industry and City departments, the City Attorney prepared the Pavement Life Span Policy for City Council's consideration. This policy would update and formalize the dig once process and, most importantly, enable the Director of Public Works to administratively approve encroachment permits for underground telecommunications conduit projects. This administrative approval levels the playing field for those fiber installers that currently must have a public hearing before obtaining an encroachment permit, saving several months in permitting timelines, whereas incumbent local exchange carriers (ILECs) and utilities have franchise rights to obtain a permit to work in the right of way without the added public hearing process, giving ILECs a market advantage in the permitting process.

Reviewing the draft Pavement Life Span Policy, CTC found that the City is on the right policy track but recommended the following improvements:

- Provide specifications for two (2) two-inch conduit for any City initiated projects (with four (4) two-inch conduit for the upcoming CalTrans Highway 1/9 intersection)
- Provide specifications and renderings for how conduit should be located in a trench, including joint utility trenches
- Provide specifications and renderings for how conduit connects from below the street to a vault or handhole in the sidewalk right of way
- Provide specifications for microduct, a technique that subdivides conduit internally without needing to install additional conduit
- Provide a clear dig once process flow chart with timelines that may be longer than thirty days
- Consider hiring one full-time equivalent staff member to handle dig once coordination and quality control, working closely with Public Works but potentially located in Information Technology or Economic Development
- Require all handholes to have custom covers for easy telecommunications company identification to resolve repair and maintenance issues in the right of way
- Require conduit installers to provide as-built documentation including geographic information system (GIS) files to map the work performed
- Integrate dig once into engineering review (especially City initiated projects) as soon as possible and avoid adding conduit to pre-existing City right-of-way contract work because change orders are no longer priced to be competitive, overriding the potential cost-savings
- City should decide strategically whether or not to require full-lane slurry of the road
- City should decide strategically to require video proofing storm and sewer drains only where there is suspected damage or where existing infrastructure location cannot be confirmed

After reviewing the above draft recommendations, staff has integrated them in the current dig once policy. Therefore, Staff recommends City Council to approve Pavement Life Span Policy (Attachment A) and direct staff to implement recommendations from the CTC I-Net Strategy report so underground telecommunications work has a predictable, streamlined process with clear specifications.

FISCAL IMPACT: The I-Net construction will cost up to \$2.2 million and can be financed internally from existing City resources and will be cash positive by the end of the third year. More information on the proposed funding will be included in the forthcoming CIP Budget for Council consideration.

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ATTACHMENTS: Resolution
Proposed City Council Policy 28.2