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Pilot Project for Ultra High Speed Broadband Network for Research & Development Businesses

May 15, 2018

Staff Recommendation

- Requesting City Council Approval of 2-Year Pilot Project to Invest in CENIC Ultra-High-Speed Broadband Network to Attract and Foster High-Tech Research and Development (R&D) Companies Initially Located at Alameda Point

What Is CENIC?

CENIC

(**C**orporation for **E**ducation **N**etwork **I**nitiatives in **C**alifornia)

A high capacity internet broadband network with 20+ million users funded with federal stimulus monies for:

- Students
- Educational and other public-serving institutions
- Researchers

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About CENIC

- **3,800+ miles of optical fiber**
- **Members in all 58 counties connect via fiber-optic cable or leased circuits from telecom carriers**
- **Over *10,000* sites connect to CENIC**
- ***20,000,000* Californians use CENIC**
- **Governed by members**
- **Collaborates with over 500 private sector partners**

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CENIC and the World

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CENIC in Alameda

- The City of Alameda, AUSD and the College of Alameda currently use the CENIC network
- For example: 800+ students across the Bay Area recently attended the SF JAZZ's event celebrating Harriet Tubman and the Underground Railroad while 470+ students engaged digitally from their school sites using the **CENIC network**
- The City's Library was an early adopter taking advantage of what CENIC could offer a community with high-speed internet and by participating in a San Francisco Jazz event

CENIC Expansion Opportunity

- Opportunity to allow R&D businesses in the City starting at Alameda Point to connect to a 100gig capacity broadband network used by educational / research institutions worldwide

How Does CENIC Connection Work?

- Provides businesses with unique access to high speed broadband network that connects to public R&D institutions and their facilities, such as super computers
- Requires R&D industries to provide internships for AUSD and College of Alameda students

Benefits of CENIC

Greg Bell, Director of the Scientific Networking Division at Lawrence/Berkeley National Laboratory:

- *"Faster data almost always means faster discovery."*
- *"More important than bandwidth, though, is a growing spirit of international cooperation in our community: multiple stakeholders working together towards a common goal of open, fast, and safe research networking for the world."*

Benefits of CENIC

Trans-Pacific Connectivity thru CENIC

- The world's hardest problems can only be solved through global collaboration
- Large-scale science requires 100Gbps capacity
- University of Hawaii:

"This major improvement in speed and sophistication in Trans-Pacific connectivity will help our global academic community do both."

City Benefits

- Fosters success of existing R&D businesses by providing access to institutions connected to CENIC network
- Acts as a potential catalyst by attracting R&D businesses to the City
- Provides high-tech educational opportunities for Alameda students

Power of Broadband
Case Studies: San Leandro

- Lit San Leandro project has driven new Tech Company investments in the area
- Now boasts the world's largest cluster of 3-D printing companies

Power of Broadband Case Studies: Benicia

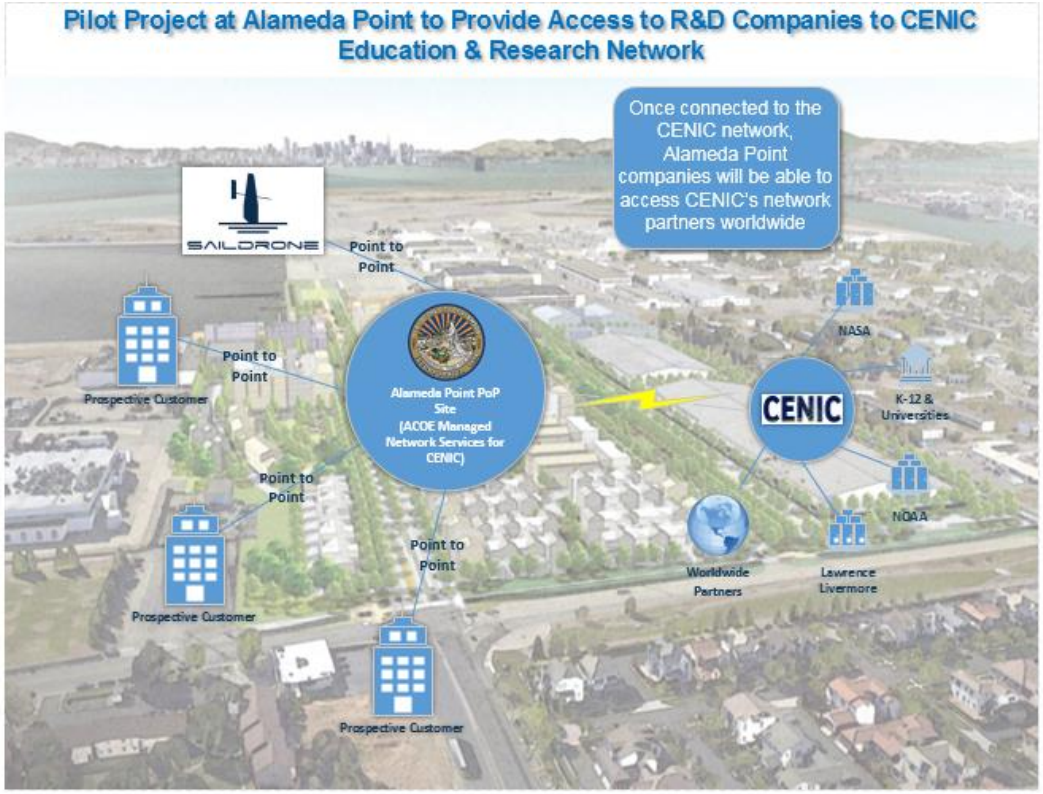
- Wants to deliver commercial-grade broadband internet service to support the changing needs of local businesses
- Currently the city is working with Lit San Leandro to finalize a plan to serve the Benicia Industrial Park

Power of Broadband Case Studies: San Ramon

- Bishop Ranch Office Park, high-speed broadband internet contributed to the creation of 35,000 high-wage jobs in or relocated to San Ramon
- Investing in high-speed internet has helped Bishop Ranch to achieve nearly 95% occupancy in their growing technology hub

Summary of CENIC Pilot Project

- Expand CENIC to Alameda Point by installing appropriate hardware to allow connectivity
- Finalize participation from relevant R&D companies: Saildrone and Astra Companies
- Allow expansion to other interested R&D companies at Alameda Point



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Sources and Uses of Funds

- 2018/19
  - Capital: $150,386 [IT Strategic Plan Funding]
  - Operating: $65,700 [Base Reuse/FISC]
- 2019/20
  - Operating: $65,700 [Base Reuse/FISC]
- 2020+
  - Obtain sustainable funding from other sources, such as funds from businesses

City Council Next Steps

1. Finalize participation with interested R&D businesses at Alameda Point
2. Seek approval of hardware contract upon securing final business participation
3. Seek approval of MOUs:
   - Establish an interconnection to allow connectivity to CENIC network between CENIC and the City
   - Ongoing CENIC management with Alameda County Office of Education

City Council Next Steps

4. Receive evaluation of pilot program and consider potential expansion citywide
5. Identify sustainable long term funding for expansion, such as potential association fees for recurring annual support

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