



# CRITICAL NEEDS IN TECHNOLOGY

DECEMBER 5, 2017

# Critical Needs in Technology

Fiber Network  
\$11.9 m

Installing a fiber optic system to interconnect City buildings to save on current and future communication costs and provide a strong foundation needed to address digital inclusion in the future

Outdated  
Equipment  
\$43.1 m

Replacing outdated technology that is becoming unreliable and will not support new systems nor the new Civic Center

Technology  
Systems  
\$12.0 m

Furnishing needed systems to meet key critical City needs and prevent malicious system attacks, data loss, or service outages

Public Safety  
Communications  
\$21.0 m

This item is not being recommended for action at this time as additional information is anticipated to become available in the next few months pertaining to extended support

The City has completed a Citywide Fiber Study that:

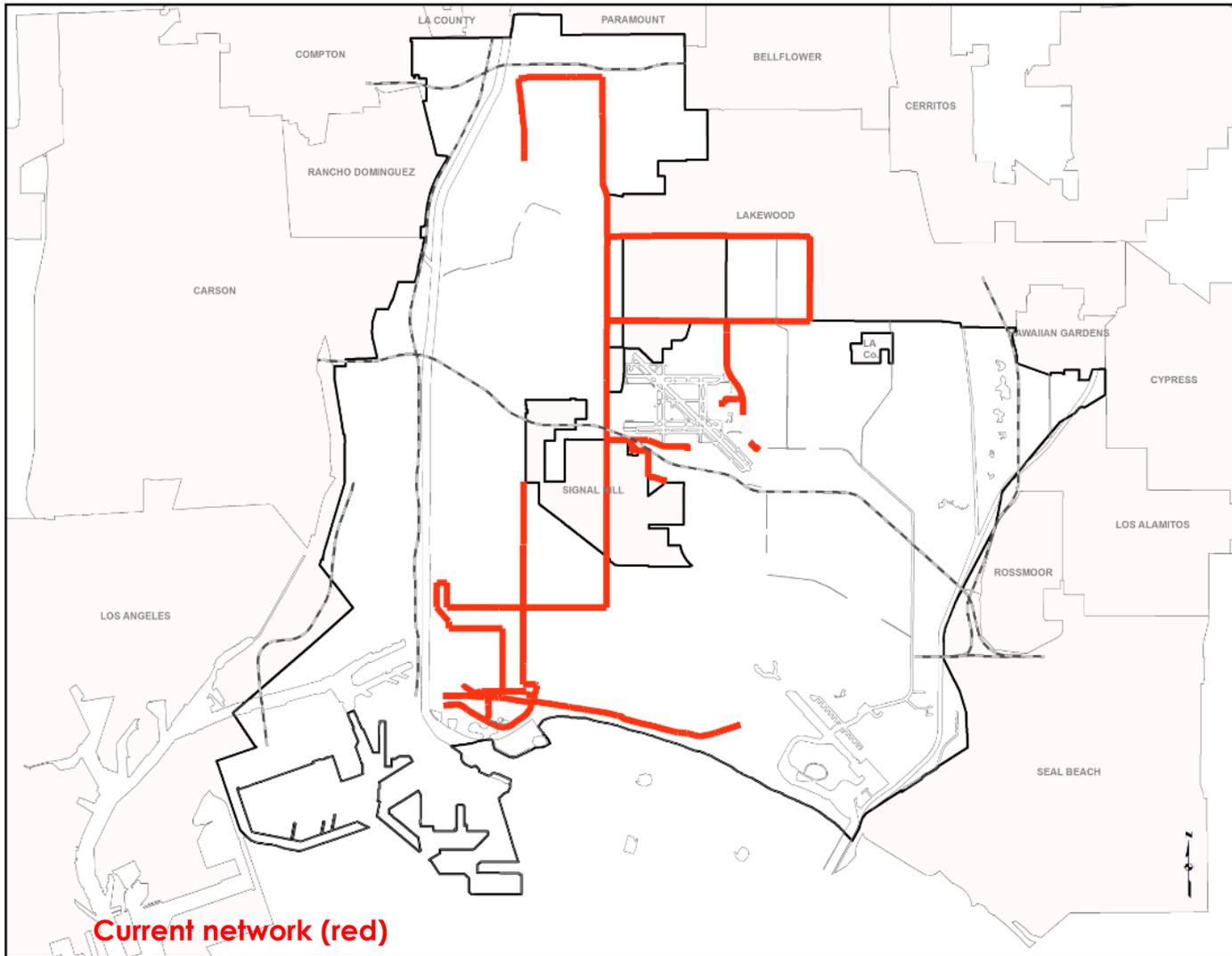
- Addresses need for faster data speeds between City facilities
- Assesses current City fiber assets and infrastructure
- Evaluated fiber network approaches in other cities
- Developed preliminary engineering and financial analysis
- Integrates “*Dig Once*” approaches and opportunities
- Identifies opportunities for incremental strategic investment in expanding fiber infrastructure

Proposed approach is implementing a fiber network to connect City buildings

- A highly cost-effective way to provide for both current and future needs
- Provides the economic and physical framework for further expansion and potential private investment
- Leverages “*Dig Once*” opportunities to complete fiber network infrastructure
- Provides redundancy and increased capacity/bandwidth
- Has an expected net cost saving, including debt service, after considering avoided future communications costs

### Proposed approach has three key initial steps

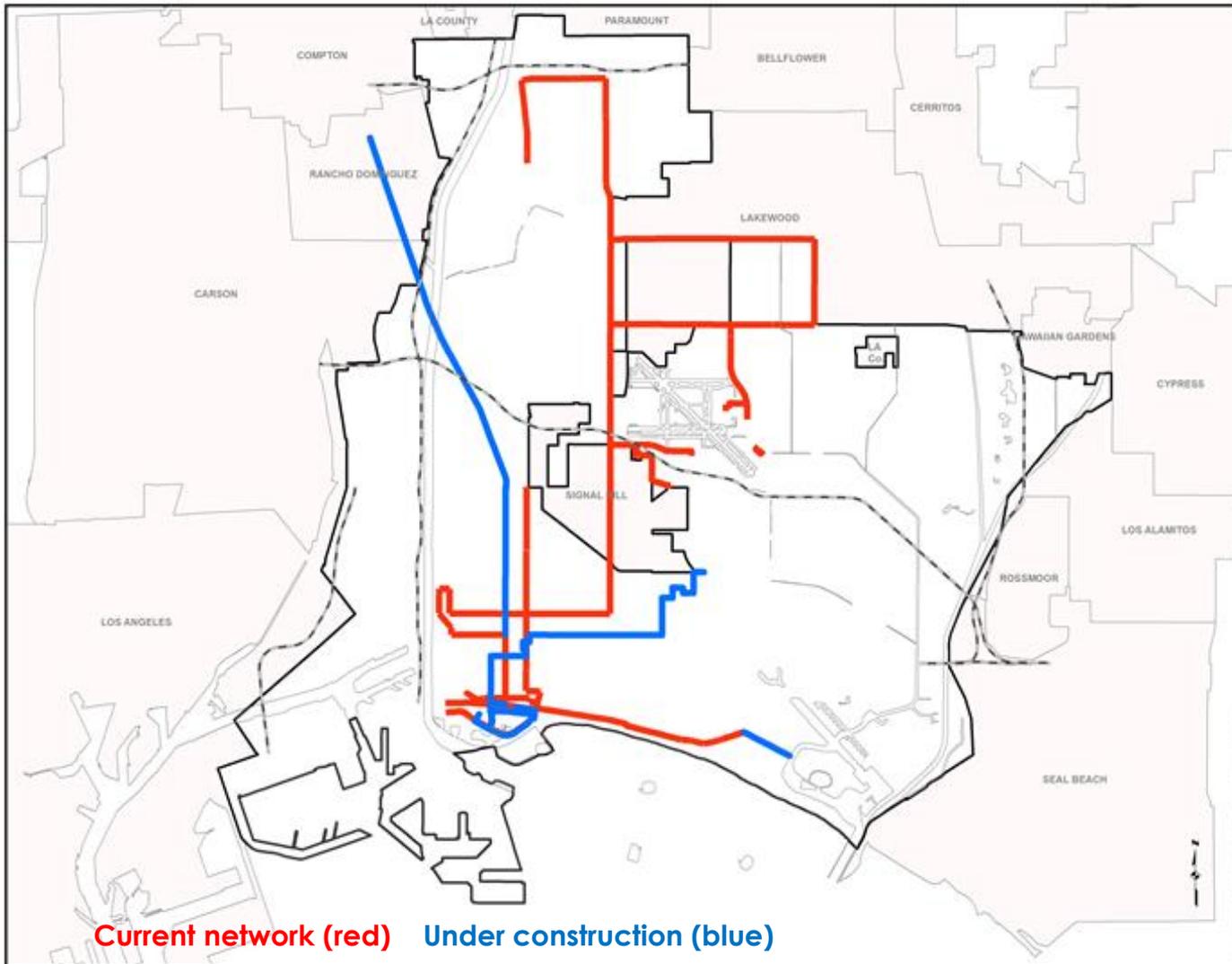
- Implement fiber network between City facilities to provide data communications needed for new systems and lower leasing costs
- While network is being designed, allow communication providers to propose alternatives to lower city investment costs without impacting long-term savings
- Explore partnerships for future expansion of the City network to businesses and/or residences



Current network (red)

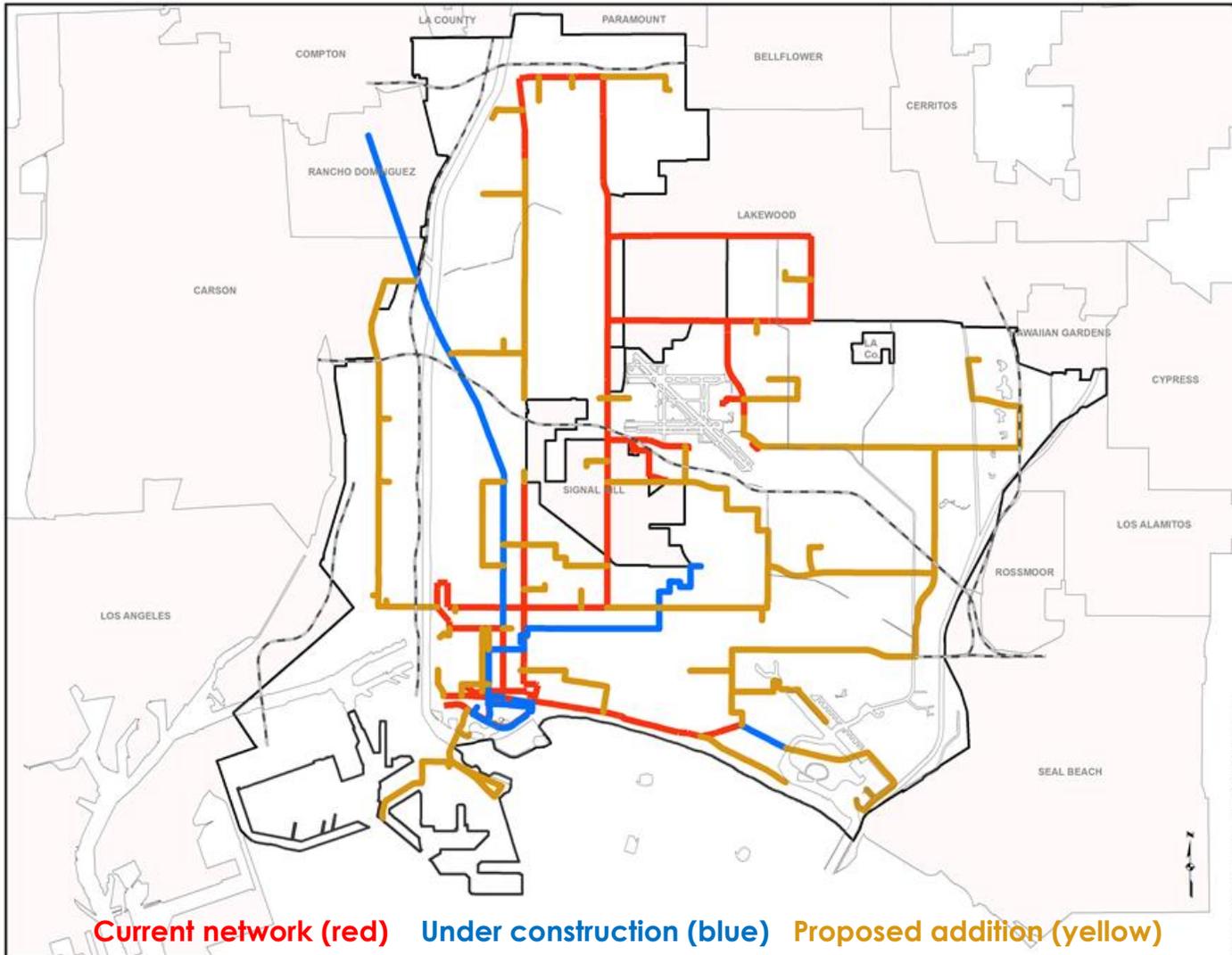
Connected Facilities

- City Hall
- Emergency Operations Center (EOC)
- Fire Headquarters
- Fire Station 1
- Fleet Services
- Towing Operations
- Gas and Oil Department
- Long Beach Airport
- Police Headquarters
- Patrol Field Support
- Port Joint Command & Control Center
- Public Libraries
  - Burnett; Main; Mark Twain; Michelle Obama; Ruth Bach
- Environmental Services
- Public Service Yard
- Traffic Operations
- Video Communications
- Water Headquarters
- Water Treatment Plant



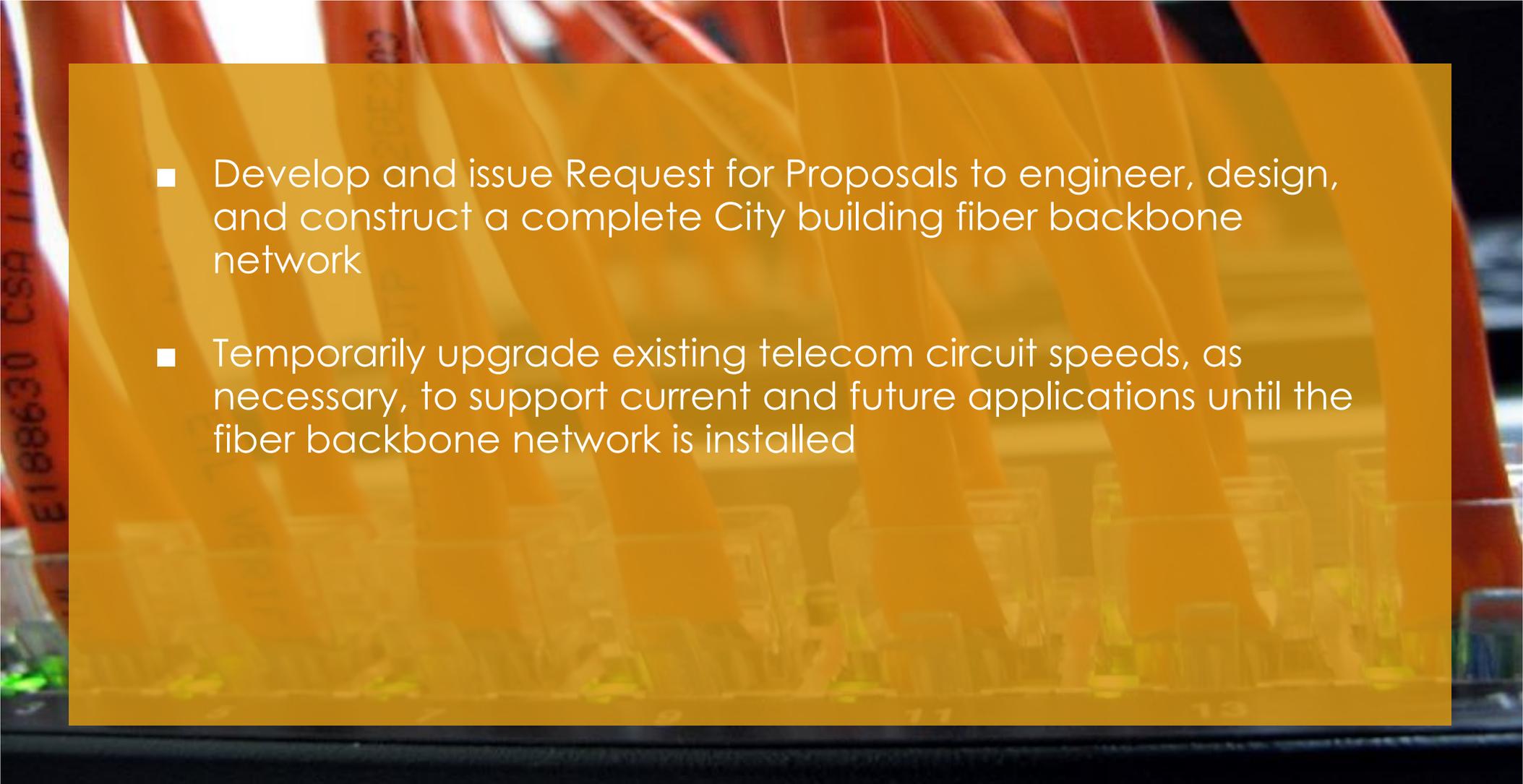
### Potential Facilities

- Bay Shore Library
- Fire Station 8
- Fire Station 7
- Nurse Home Visit Program
- WIC St Mary
- Veterans Park
- New Main Library
- New City Hall
- New Port Headquarters
- Downtown Marina
- Orizaba Park Community Center
- Reservoir Hill
  - Public Safety Radio Backend
- Houghton Park Community Center
- North Health Facility Center



135 Potential Facilities

- Park, Recreation, and Marine
  - 53 sites
- Public Libraries
  - 7 sites
- Police Department
  - 8 sites
- Fire Department
  - 33 sites
- Health and Human Services
  - 14 sites
- Council District Field Offices
  - 6 sites
- Miscellaneous
  - 14 sites

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- Develop and issue Request for Proposals to engineer, design, and construct a complete City building fiber backbone network
  - Temporarily upgrade existing telecom circuit speeds, as necessary, to support current and future applications until the fiber backbone network is installed

- First overall assessment of City technology infrastructure and systems
- The City's technology infrastructure is at end-of-life and is not capable of supporting the new systems to meet the City's business needs
- The current technology infrastructure cannot be transitioned to the new Civic Center and function as expected

### Summary of Outdated Equipment

<u>Equipment Category</u>	<u>Cost (\$ in millions)</u>
Data Center	9.9
Network Communications	10.4
PC Replacements	1.8
Fiber	5.8
Wireless	3.6
Equipment	9.5
Security Cameras	2.1
<b>Total</b>	<b>43.1</b>

- Finalize equipment list and incorporate necessary details
- Bring purchase requests for specific items forward to Council as purchase recommendations are finalized and recommended vendors identified

- Addresses community/resident needs to make inquiries or requests and track status
- A major update from *Go Long Beach*
- Received informal proposals from 16 vendors for both a cloud-based and on-premises model
- Initiate the development and issuance of Request for Proposals for a Customer Relationship Management solution

- Cyber Security is a major issue worldwide
- The City's first preliminary assessment has identified numerous gaps across many City functional areas
- These areas need to be addressed to ensure compliance with state, federal and contractual requirements, and better protect the City from cyber attacks that threaten both our data and our ability to operate
- Initiate the development and issuance of Request for Proposals for Cyber Security initiatives

- Conducted a physical inventory of paper documents and created a roadmap for digitization
- A Request for Proposal was issued and the City is reviewing the submitted proposals
- Expecting a three-year, phased-in implementation plan, with City Hall implemented first



# FINANCING AND FUNDING

All costs are estimated

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- Financing is expected to be accomplished by equipment leases
- Cash will be used for installation and implementation costs
- An interfund loan may also be used if enough cash is not available
- These needs are newly identified and were not able to be included in the budget

- Cash from funds available will be used, where possible, to minimize ongoing debt service
- Debt Service will be built into the annual budget, and will likely be a permanent structural cost
- Operating costs will also be included in the annual budget
- Annual costs will add to any other shortfall and be absorbed in future budgets by revenue offsets, if available, or by reducing other expenditures

- The cost of the fiber network is low compared to the savings. It is desirable to maximize the savings by getting the network up as quickly as feasible
- \$11.9 m to finish the network
- \$0.5 m net annual General Fund cost; no cash required
- For the complete network, including the portion in “Outdated Equipment,” the annual General Fund cost is \$1.0 m for first few years
- Including avoided data communications costs, the complete network has a net annual General Fund savings of \$0.25 m

- \$43.1 m to replace outdated equipment, ensure the technical needs of new systems are met, and avoid potential delays and costs in opening the new Civic Center
- \$4.8 m annual General Fund cost
- Also requires \$6.6 m General Fund one-time cash

- \$12.0 m for three system areas that are critical to better serve residents, address cyber threats, and improve City-wide efficiency and space savings
- \$1.0 m for Customer Relationship Management (CRM) solution, \$4.0 m for cyber security, and \$7.0 m for an Electronic Document Management System (EDMS)
- \$1.3 m annual General Fund cost; also requires \$4.3 m General Fund one-time cash



**Investment**

\$67.0 m All funds

**Financing/Cash**

\$49.6 m loan All funds

\$10.9 m cash General Fund \$17.4 m cash All funds

**Total Annual Cost**

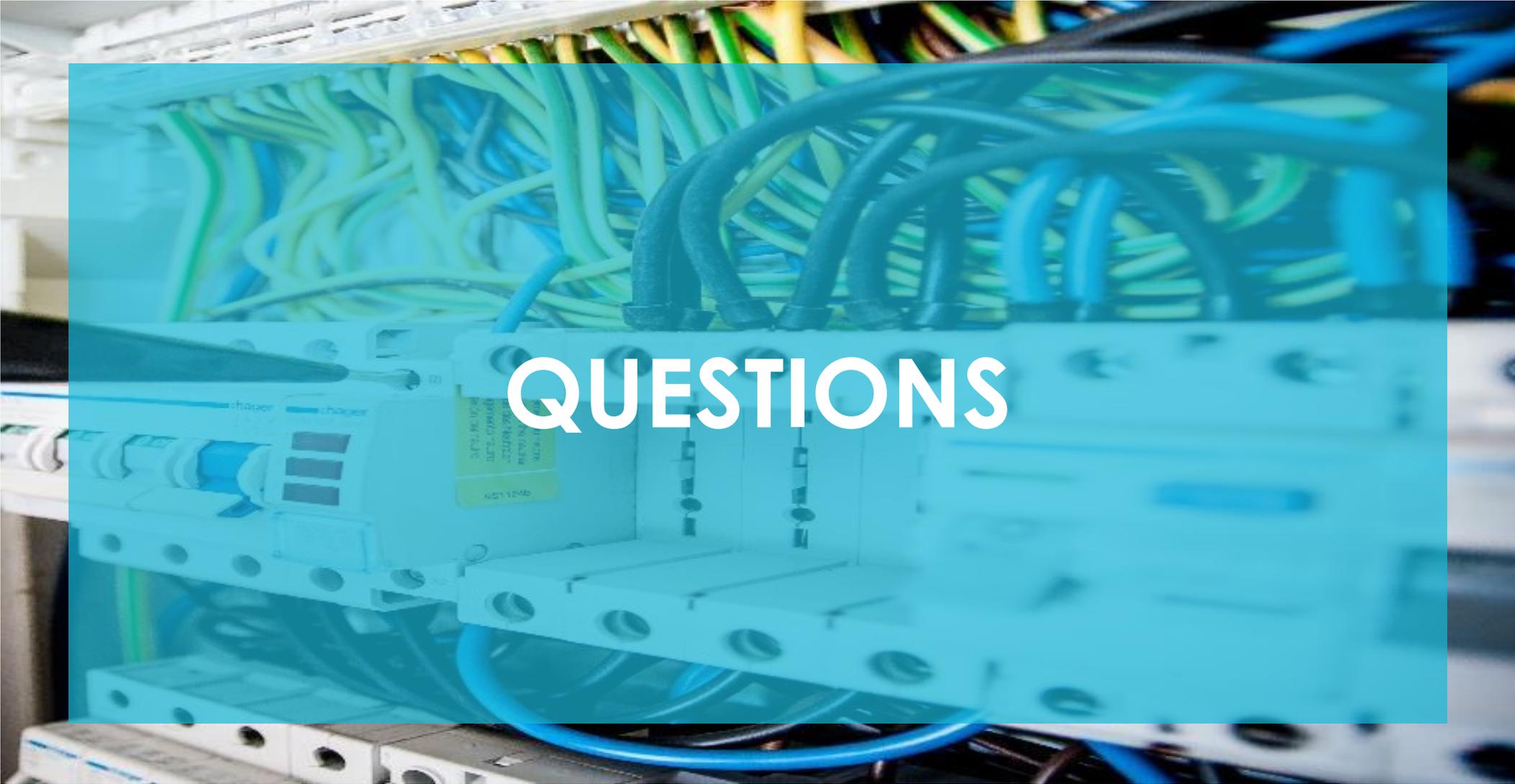
\$6.6 m General Fund \$10.4 m All funds



- December 19: Update on budget status and review of other revenue sources
- December-On: Submission of Critical Technology Infrastructure Needs purchase recommendations
- During FY 18 and FY 19: Limited Staff action such as temporarily leasing high speed data lines or staff support identified in the critical needs plan
- First half of 2018: Updates to City Council on mobile radios and any other critical infrastructure needs
- FY 19 budget process: Listing and discussion of overall unfunded needs

# Recommendation

- Recommend approving motion for staff to proceed with preparation of purchases for City Council Consideration
  - *Addresses the critical technology infrastructure needs identified by the recent fiber study and technology infrastructure assessment*
  - *Provides the foundation for utilizing 21<sup>st</sup> century technology to meet City needs*
  - *Provides a permanent solution to unfunded technology infrastructure*
  - *Eliminates an estimated \$2.0 m a year in cost increases related to communications*
  - *Keeps our technology and services operating: avoids equipment failures and inability to use with new data center and systems*
  - *Provides a strong foundation needed to address digital inclusion*
  - *Directly and indirectly provides for improved public internet/wi-fi access*



# QUESTIONS