

City of Long Beach

Fiber Master Plan Overview

Defining the Cornerstone Elements of a Next Generation Fiber Network

Technology & Innovation Department • The Broadband Group

July 25, 2017

Mission Statement



Stakeholder Needs



Regulatory Issues

*The purpose of the
Citywide Fiber Master Plan*

*is to identify an overall vision, structure, and strategy for
the requisite operational elements defining the Technology
and Telecommunications future of Long Beach.*



City Funds



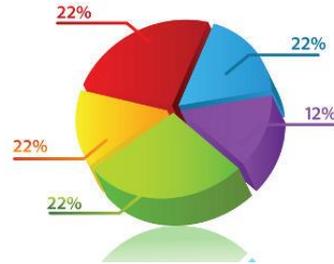
City Connectivity

Fiber Master Plan Considerations

Internal Department Needs Survey



Market Research *Commercial & Residential*



Economic Development & Public Safety Corridors



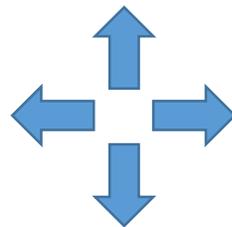
Financial Modeling



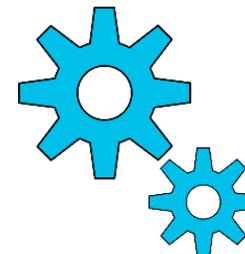
Smart Cities & The Internet of Things



Deployment Scenarios *City Build vs. Public- Private Partnership*



Engineering Analysis



Implementation Opportunities *Dig Once & Small Cell Policy*



City Build Scenarios

- **Scenario #1: Internal Needs**

- ~\$12.6 Million City Investment (12 Month Build Out)
- 143 City Buildings/Outside Plant Only
- Select Economic Development & Public Safety Corridors
- No Ancillary Revenue

- **Scenario #2: Internal + Business**

- ~\$32.8 Million City Investment
- Cost Offsets from Business Enterprise Broadband Service Offerings
- Revenue Pay-Back Estimated at 10 Years

- **Scenario #3: Internal + Business + Residential**

- ~\$182.5 Million City Investment
- Cost Offsets from Business Enterprise Broadband Service Offerings + Lease Payments from Network Tenants



City Build Scenarios #1-3

Scenario #1

Build Fiber Backbone & Laterals - Connect 143 City Buildings

- *~\$12.6 Million Cost*

Scenario #2

Extend to Connect Commercial Corridors

- *~\$32.8 Million Cost*
- *Lease Excess Capacity to Network Tenant(s)*
- *Business Enterprise Services Offered by City or Network Tenant(s)*

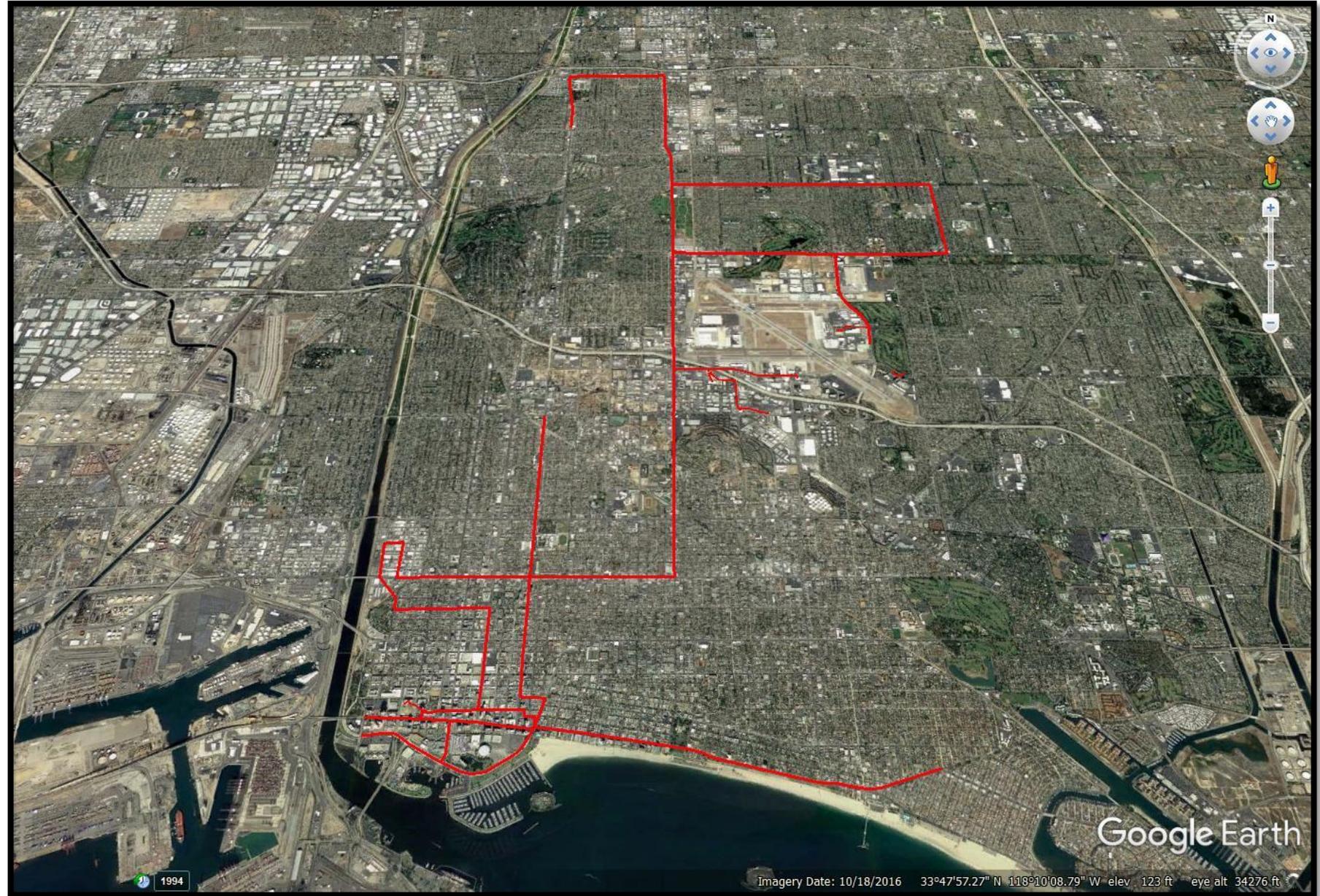
Scenario #3

Extend Network Citywide

- *~\$182.5 Million Cost*
- *Lease Excess Capacity to Network Tenant(s)*
- *Business Enterprise and/or Residential Services Offered by Tenant(s)*

Fiber Plan

Existing City Fiber

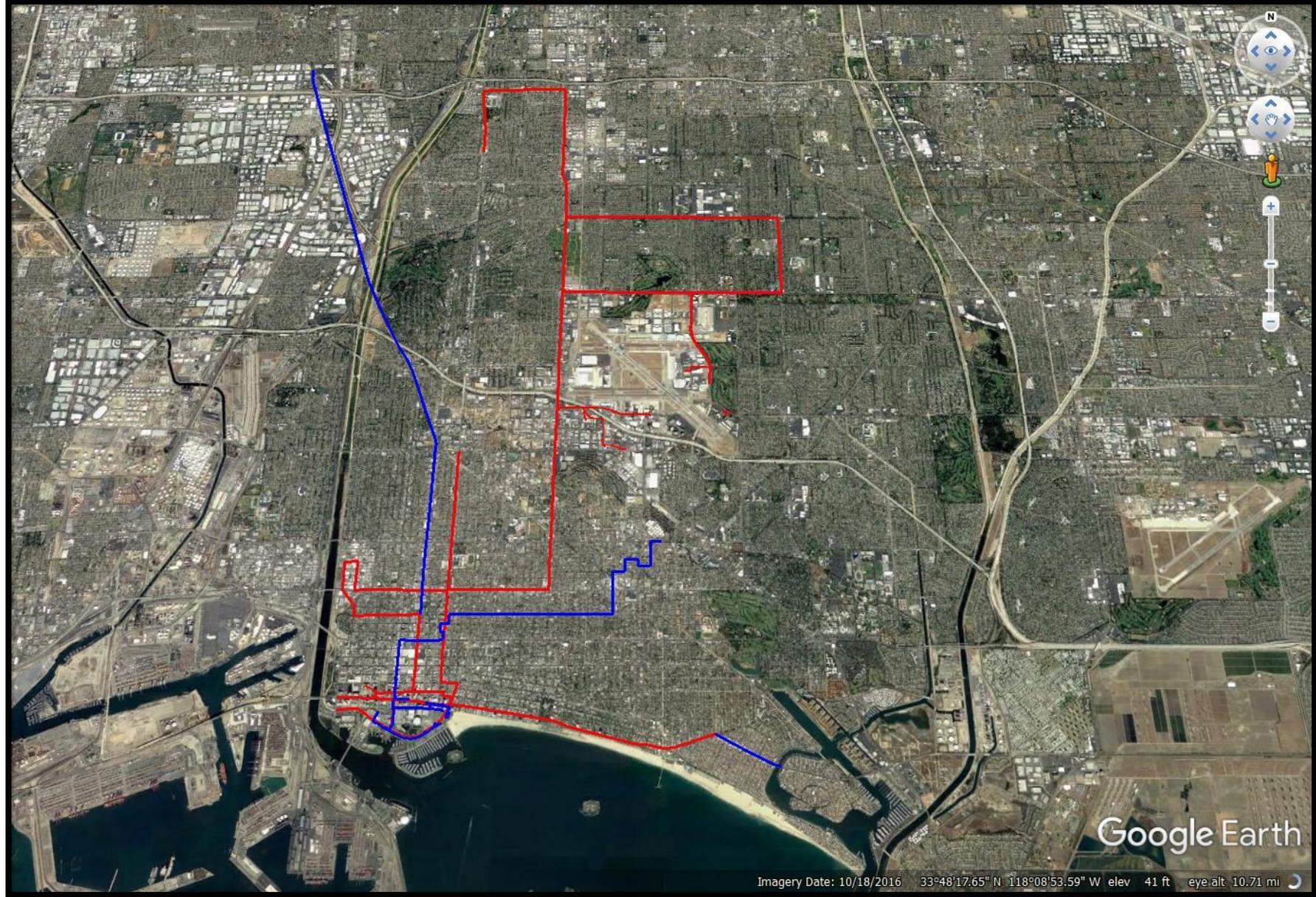


Fiber Plan

Existing City Fiber



Under Construction



Fiber Plan

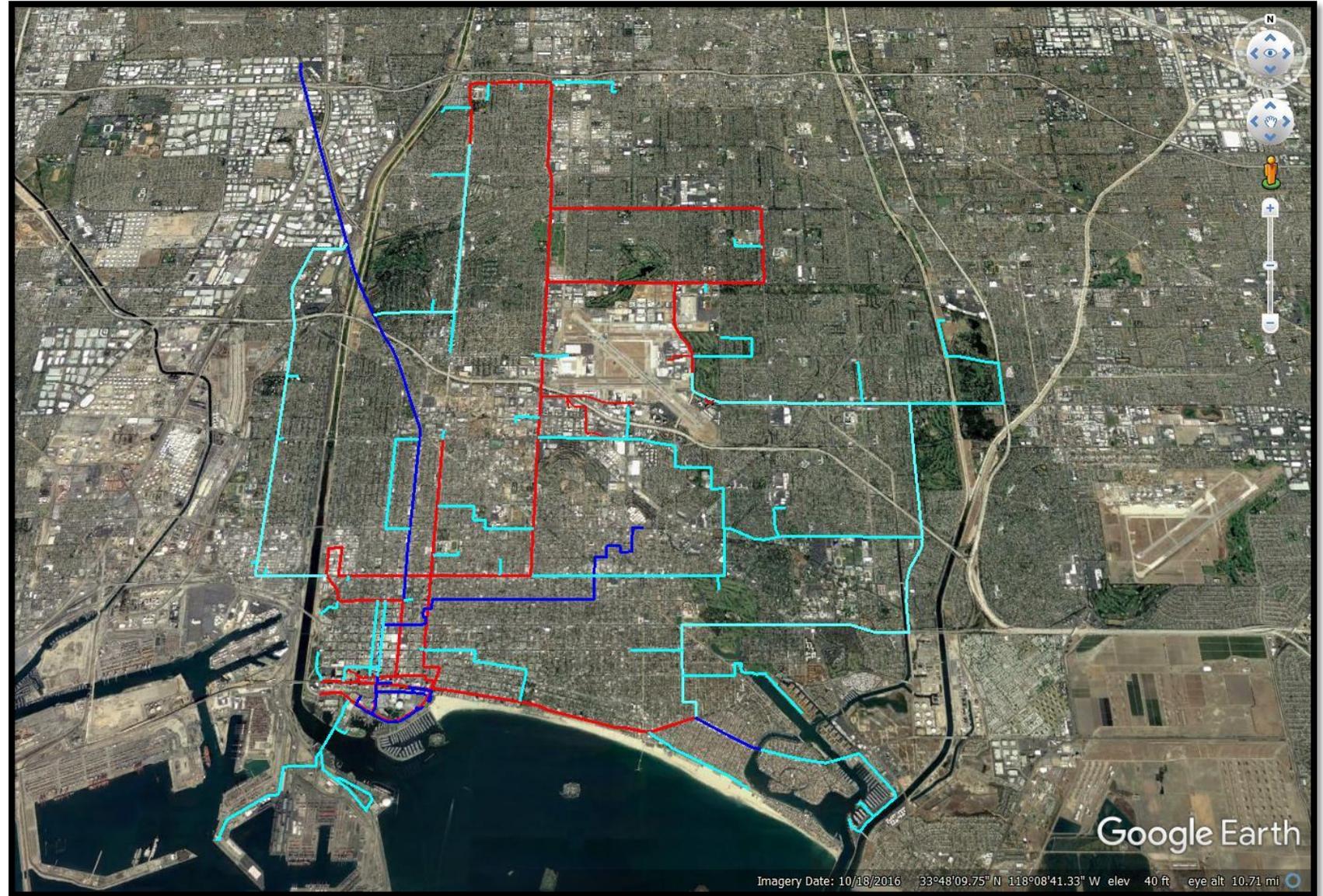
Existing City Fiber



Under Construction



Recommended
Fiber Additions



Public-Private Partnership (P3) Opportunities

City may seek to meet internal connectivity needs through a P3 structure.
The City would need to determine what assets might be leveraged to drive Partnership interest.

- **Internal + Business**

- City Leases/Purchases Access to Dark Fiber from Partner to Connect City Buildings
- Monthly Lease Payments vs. Capital Costs
- Meets City's Internal Connectivity Needs
- Accelerated Deployment Timeline
- Qualified Service Provider Tenant(s) Lease Access from Partner to Serve Business/Enterprise
- Creates Compelling Economic Development Tool & Increased Market Competition

- **Internal + Business + Residential**

- Additional Tenant(s) Lease Access from Partner to Serve Residential
- Improved Citywide Connectivity & Network Competition



Next Steps

Next Steps & Considerations

- Detailed Engineering Exercise
- Route Prioritization
- Dig Once
- Potential Public-Private Partnership Development

