

FIBER OPTIC MASTER PLAN AND IMPLEMENTATION ROADMAP

City Council Meeting – October 7, 2019

Purpose

At the February 2019 Strategic Planning Session – City Council asked staff to develop and present a Broadband Master Plan for the installation of fiber throughout the City.

This prioritized roadmap will assist staff in identifying areas where an established City-owned fiber network will assist in connecting City facilities and deploying “smart city” applications/technologies.



**SUPPLEMENTAL
COMMUNICATION**

Meeting Date: 10-07-2019

Agenda Item No.: SS#1 (19-1006)

Accomplishments



2015 – BROADBAND
STRATEGIC PLAN



2016-2017 – MAGELLAN
ADVISORS RETAINED TO
ASSIST THE CITY



2017 - INTERNAL
TELECOMMUNICATIONS
TEAM LAUNCHED



BROADBAND "SMART
CITY" AD HOC
COMMITTEE

Introduction



The purpose of the Master Plan and Implementation Roadmap is to guide fiber optic infrastructure deployment in the City of Huntington Beach.



This Plan will provide City Council with a summary of the City's current municipal communications infrastructure, as well as future needs for the network expansion and services.



The Master Plan covers how the City's fiber optic network can ultimately be built-out with prioritized implementation

City Fiber Infrastructure by the Numbers



CONNECTED
INTERSECTIONS
41



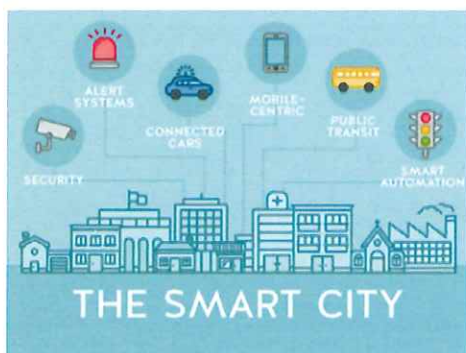
CONNECTED CITY
FACILITIES
27



MILES OF FIBER
10 MILES



DARK FIBER
APPROX 50% OF THE
9% STRAND CABLE



What is Fiber?

- Over 1,000 cities in the United States own some form of municipal fiber network and have used them for decades to support their own municipal operations.
- These networks are becoming increasingly important to cope with the rapid growth in new technologies.
- Cities that maintain these networks are able to accommodate the “smart city” technologies that make them more efficient, reduce costs, increase the value they deliver to their constituents.
- **Fiber is the transport layer that enables high-speed connectivity.**

Existing Projects – Traffic Signal System

- **Current construction – 9.25 miles of fiber & 24 new signals**
 - Brookhurst – 3.5 miles of fiber – 8 new signals
 - Magnolia – 2.5 miles of fiber – 6 new signals
 - Newland – 2 miles of fiber – 4 new signals
 - Center Avenue – ½ mile of fiber – 3 new signals
 - Main Street – ¼ mile of fiber – 1 new signal
 - Goldenwest – ½ mile of fiber – 2 new signals
- **Funded projects – 4.25 miles of fiber – 13 new signals**
 - Edinger – 3.5 miles of fiber – 12 new signals
 - Warner – ¾ mile of fiber – 1 new signal

Existing Projects – Information Systems

- **Current construction**
 - Murdy Park – Fiber connection to Goldenwest fiber system connecting back to City Hall
- **Funded projects**
 - Downtown Facilities – ¾ mile of fiber - 7 facilities
 - In Design – Joint Powers and Utilities to Goldenwest fiber system – 1.25 miles of fiber – 3 facilities

Prioritization

- Public Works and Information Services staff have worked to identify priority sites/facilities that would benefit from a fiber connection.
- Priority based on several factors including:
 - Outside or special funding availability
 - Overall City need/facility communication importance and band width requirements
 - Cost to construct/integrate
 - Cost of alternative methods
 - Multi-use potential
- Expanding the City's network to connect additional City-owned buildings would serve a dual purpose of serving the City's needs as well as providing spare fiber available for leasing.
- Prior to the adoption of any joint trench policy, the City must prioritize what gets connected.

Anticipated Priority Projects

City Hall to Pier Plaza fiber installation

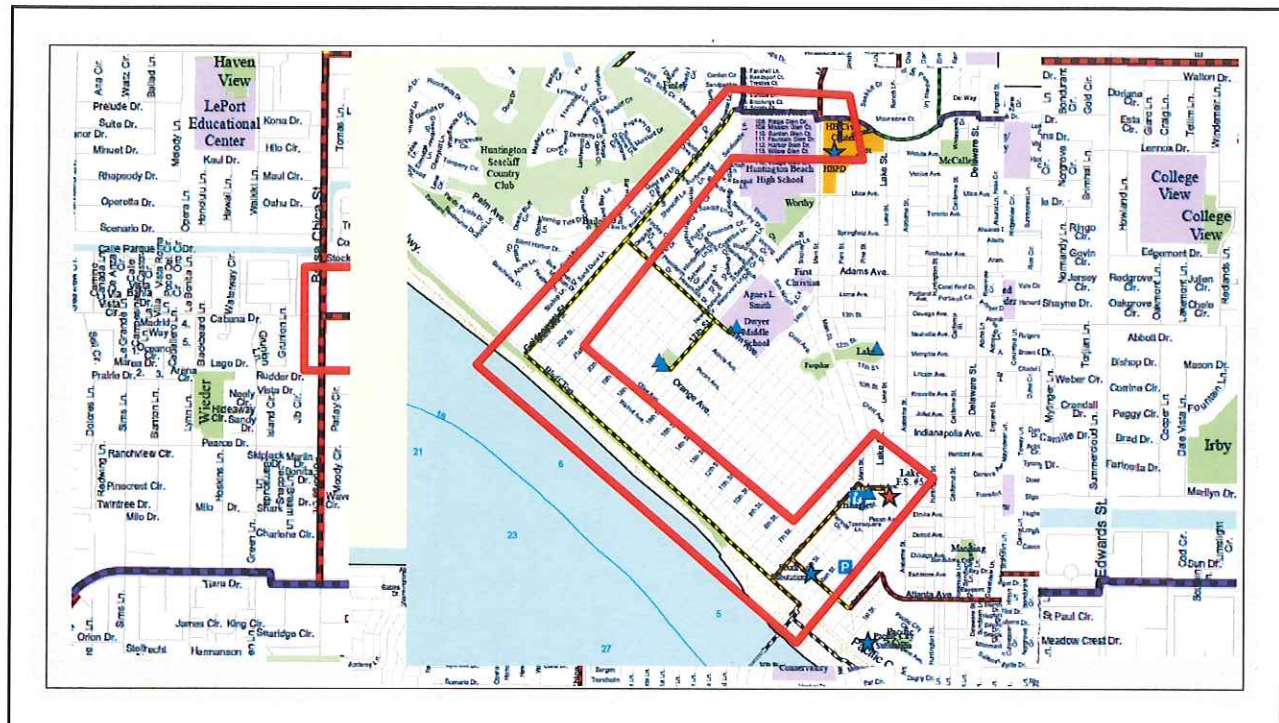
Bolsa Chica Fiber – Edinger to Rancho

Joint Powers Fiber construction (may include Utility Yard)

Heil Fiber – Trudy to Bolsa Chica

Garfield Fiber – Goldenwest to Seapoint

Edwards Fiber – Garfield to Fire Station/Water facility



Funding Mechanisms

All proposed projects would go through the normal budgeting process for funding appropriation and would be identified each year in the Capital Improvement Program. Some available funding sources that could be used:

- Measure M - Restricted
- PEG - Restricted
- General Fund
- Special Funding – AQMD Mitigation Money

More than \$16 million in overall need.

Next Steps/Recommendations



- Using the Master Plan— evaluate business case for leasing out existing fiber.
- Using the Master Plan - review and adopt a Joint Trench Policy
- Continuing to pursue any partnerships with telecommunication carriers.
- Continue monthly internal Telecommunication Committee Meetings
- Continue Bi-Monthly Ad Hoc Smart City Committee Meetings until deemed no longer necessary
- Pursue Grant Funding
- Prepare for AQMD Mitigation Funding