History

• January 2016: City Council authorized Magellan Advisors to perform a fiber optic feasibility study
• Spring 2016 to Spring 2017:
  • Researched and evaluated:
    • the City’s current supply of fiber optic assets
    • potential uses of surplus assets/infrastructure
    • current and future demand for broadband products and services
    • existing broadband providers in the City
  • Conducted community stakeholder interviews
    • (City Depts. 5 school districts, Chaffey College, Chamber of Commerce, regional developers, and the business community)
  • GOAL: Consider opportunities to promote long-term economic development for the City
• May 2017: City Fiber Optic Master Plan completed
• Sept 2017: City Council adopts Master Plan
Findings: Demand for high speed

- The Internet of Things era has arrived!
- Need more connectivity and speed.
- High speed is an important “driver” for economic development and “smart city.”
  - City’s Economic Development Strategic Plan
- The internet now has to be viewed as a utility
Findings: Local opportunities lacking

- Limited fiber distribution infrastructure in the City
- Lack of broadband competition – Lack of choice
- Costs to construct are high – makes fiber access expensive
- Businesses wanting high speed broadband are paying line extension fees which can make services unaffordable
- Dedicated (enterprise) fiber services only available for those who pay for it
Findings: City is progressive

- Rancho Cucamonga’s enterprise spirit:
  - Development of RCMU to start an electric utility
  - Purchase of citywide light poles from SCE
- RCMU is constructing fiber infrastructure as opportunities present themselves – Ad Hoc approach
  - Fiber Master Plan provides the long-term approach to development of a fiber broadband program
- The City has fiber assets today
Findings: City Assets

• Existing RCMU & City Fiber and conduit systems – 20 miles

• Traffic conduit – 38 miles of various conduit and copper/fiber cable sizing

• City/RCMU light poles
  • ~ 17,000 vertical pole assets

• Data center
  • Under construction
Uses for City Fiber-Optic network

CURRENT
• IT and City operations
• Traffic management (mobility)
• Public safety and surveillance
• Alternate revenue through public infrastructure investment and leases

POTENTIAL FUTURE
• *Interconnect community anchors*
• *Smart city*
• *Backhaul for cellular services (5G and beyond)*
• *Offer choice and competition to the broadband business and residential market*
Master Plan Recommendations

- Public Policy
- Assess/Repurpose Assets
- Construct Fiber-Optic Backbone
- Develop Broadband Infrastructure Program
Recommendations

• Review Public Policy
  • Fiber is critical infrastructure for the City and should be considered/funded in potentially the same way as other public assets
  • Condition new developments to put in-tract fiber infrastructure
  • Ordinance considerations: ROW management, wireless ordinance, joint trench/dig once
• Repurpose all City traffic conduit to “general” fiber use
  • Coordinate with Traffic Division’s Asset Study
Recommendations

- Construct a Fiber Backbone throughout City
  - Finish segments to interconnect traffic conduit
  - Build out backbone to new areas using phased approach
  - Interconnect backbone to new City data center
  - Interconnect to Ontario and regional data centers

- Formalize RC Broadband Infrastructure Program
  - Phase 1: Develop, Brand and Market a BIP and establish a PPP with a private broadband retail provider
  - Phase 2: Begin Lit Transport, IP and Data Center Services
  - Phase 3: Fiber to the Home at The Resort (Empire Lakes GC)
Capital Plan

• Six year - $12 million capital investment plan to connect and expand the Fiber-Optic network over 60 miles of conduit infrastructure to key strategic areas.
  • 38 miles – repurpose existing traffic conduit
  • 29 miles – new conduit construction

• All revenues generated from the City Fiber network will be used to fund:
  • operations, debt service, and to expand and maintain the network and its services.
Recommendations Overview

- City is in the “broadband business” today – limited wholesale leasing revenue
- City believes fiber-optic communications is critical infrastructure
- City should take a phased/staged approach to the Master Plan (Crawl, Walk, Run)
- Wholesale business model keeps City out of direct retail competition, and enables private providers for service
Recommendations Overview

Through use of City assets, the City can:

• enable high speed broadband with choice/competition;
• generate new revenue;
• support economic development initiatives, and
• positively impact numerous community functions