



City of Arts & Innovation

City Council Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL DATE: FEBRUARY 23, 2016

FROM: PUBLIC UTILITIES WARDS: ALL

**SUBJECT: FIBER BUSINESS PLAN – REVIEW OF MAGELLAN ADVISORS REPORT ON
USE OF FIBER FOR ENHANCED COMMUNITY BROADBAND
COMMUNICATION INFRASTRUCTURE; \$300,000 IN STARTUP COSTS
OFFSET BY CURRENT REVENUES OF \$455,000**

ISSUE:

The issue for City Council consideration is discussion of the Magellan Advisors' Fiber Business Plan and staff recommendations for implementation of the Fiber Business Plan.

RECOMMENDATIONS:

That the City Council:

1. Receive and file the report prepared by Magellan Advisors outlining the recommended Fiber Business Plan for Riverside Public Utilities;
2. Provide feedback to staff on policy considerations relative to availability and expansion of broadband services in Riverside;
3. Approve in concept the roadmap for dark fiber deployment within the community; and,
4. Approve the implementation of Phase 1 as described in this staff report.

BOARD OF PUBLIC UTILITIES RECOMMENDATION

The Board of Public Utilities considered this item at their special meeting of January 22, 2016 and approved 6-0 with one absence and two vacancies the recommendations to the City Council. Additionally the Board approved the expenditure of \$300,000 in start-up costs offset by \$455,000 in current revenue; directed staff to identify through the ten-year pro-forma, an allocation of prior years' revenue for future appropriation through the budget process; and, directed staff to return to the Board in six months with a comprehensive update, and complete Phase 1 in twelve months.

The Board provided specific feedback to staff requesting an appendix to the report outlining other electric utility case studies, requesting greater specificity for Riverside, and ensuring that revenue and expenses for the fiber program (current and future) be tracked and accounted for distinctly. The Board also requested a more definitive implementation timeline which is reflected in this City Council memorandum. The additions requested by the Board will be incorporated

with any City Council feedback in the final report which will be published and posted to the City website.

BACKGROUND:

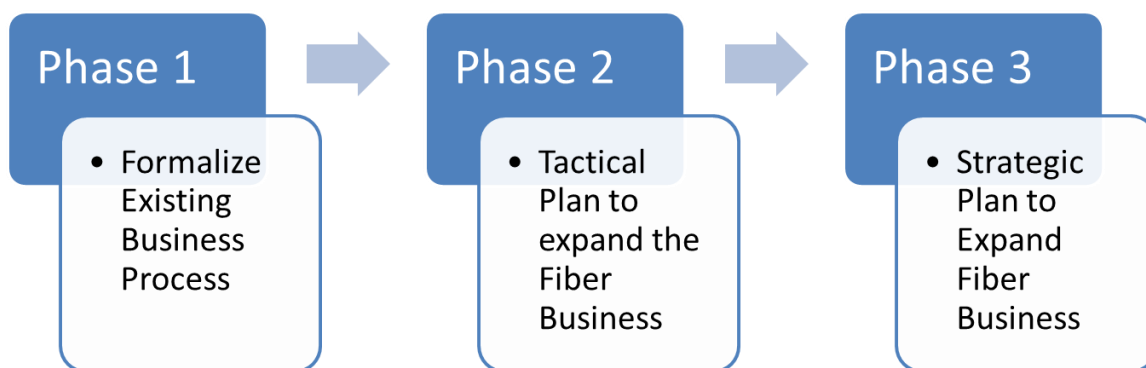
Riverside Public Utilities operates an advanced broadband fiber-optic cable based network to communicate between its substations and control centers for the operation of our electric grid. Fiber optic cable is normally installed in bundles of 96, 192, 288 or 576 fibers. A typical communication path requires 2 fibers. As a result, RPU has many locations and paths throughout the City where it owns excess fiber. This excess fiber is not connected to electronic switches at either end, rendering it “dark”. Currently, RPU leases some of these excess fibers to third parties who install the electronics and “light” the fiber for communication use.

In July 2014, the City engaged the national consulting firm Magellan Advisors (Magellan) to develop a fiber business plan and roadmap for enhanced broadband communications in Riverside. Magellan has completed the attached draft report which outlines a three-phased plan for enhancement of RPU’s business practices and expansion of our dark fiber offering.

Magellan’s scope of work included assessment of RPU’s current practices around dark fiber leasing and opportunities for enhancement of the program supported by a business community survey, interviews with community anchor stakeholders, and review of peer agency fiber offerings. Magellan also assessed RPU’s current fiber offerings, infrastructure, costs of construction, and opportunities for efficiency in how we deploy fiber infrastructure.

RPU’s process for leasing of dark fiber is not well supported from a policy level and pricing for third-party leases is largely ad-hoc. Magellan recommends, and staff concurs, that a more formal program is warranted, including development and publication of standard dark fiber leasing rates. It is further recommended that this effort be supported by dedication of 0.5 FTE staff member and implementation of a formal fiber management technology solution.

Magellan’s recommendations for a three phase roadmap are summarized in the following graphic:



Specific recommendations to implement the roadmap are detailed below:

Phase 1 – Formalize the existing business to brand and market dark fiber as a service.

- Assign an Internal Project Manager to Fiber Business
- Document the Inventory of Available Assets
- Implement a Fiber Management System
- Review and Standardize Agreements for Fiber Leasing
- Treat Fiber as Telecom Asset, Not an Electrical Asset

- Develop Pricing Policies for Fiber Leasing
- Publish RPU's Rates and Terms

Phase 2 – Develop a tactical plan to expand the fiber business through identification of opportunities.

- Establish Achievable Goals for the Fiber Business
- Identify Immediate Needs and Opportunities
- Determine RPU Policies for Expanding Dark Fiber
- Develop Pricing Policies for Expanding Dark Fiber
- Define Operational, Staffing and Financial Requirements
- Consider Establishing an Enterprise Fund
- Implement Operations and Staffing
- Increase the Inventory of Available Fiber
- Develop the Marketing and Sales Program
- Establish Metrics for Success

Phase 3 – Strategic expansion of fiber offering through potential new business models.

- Evaluate the Impact of RPU's Current Fiber Business
- Identify New Opportunities
- Explore Additional Business Models
 - Open-Access
 - Direct Provider
 - Public-Private Partnership
- Consider Public-Private Partnerships
- Learn from Other Organizations
- Conduct a Feasibility Study

The Magellan report and recommendations have been peer reviewed by the California-based consulting firm Tellus Ventures. Tellus Ventures was retained by the City to provide local perspective in the California market place and participated in several joint meetings between staff and Magellan. Tellus Ventures concurs with the recommendations contained in their report.

In considering the expansion of a dark fiber program, it is likely that initial and early phases will target large public and institutional customers that have the internal capacity to use dark fiber as a service, including installing and maintaining the electronic at each end of the fiber run to "light" the fiber and interconnect with a national carrier or internet exchange. This service could also appeal to local broadband providers (incumbents or potentially new service providers) as the cost of leasing existing fiber could (and likely would) be lower than the cost of installing new fiber runs. Latter phases will evaluate the expansion of RPU's current fiber network could include evaluation of open access and other wholesale business models that would expand fiber offerings into areas of high potential broadband uptake. An open access model could include "lit" services that could appeal to smaller institutional and business customers and meet some of the "last-mile" economic challenges that local incumbent broadband providers face.

Specific pricing and deployment policies would be developed by staff in Phase 1, with completion targeted for Q4 2016 for consideration by the Board of Public Utilities and City Council. Policy templates relative to community broadband availability, development and joint

trenching standards, and engineering design standards are attached under separate cover of the report. A separate community “fiber ready” checklist is under development by the City’s Innovation and Technology Department. Staff recommends the checklist recommendations be melded with the balance of the roadmap recommendations as part of the overall policy development undertaken with Phases 1 and 2 of the fiber plan implementation.

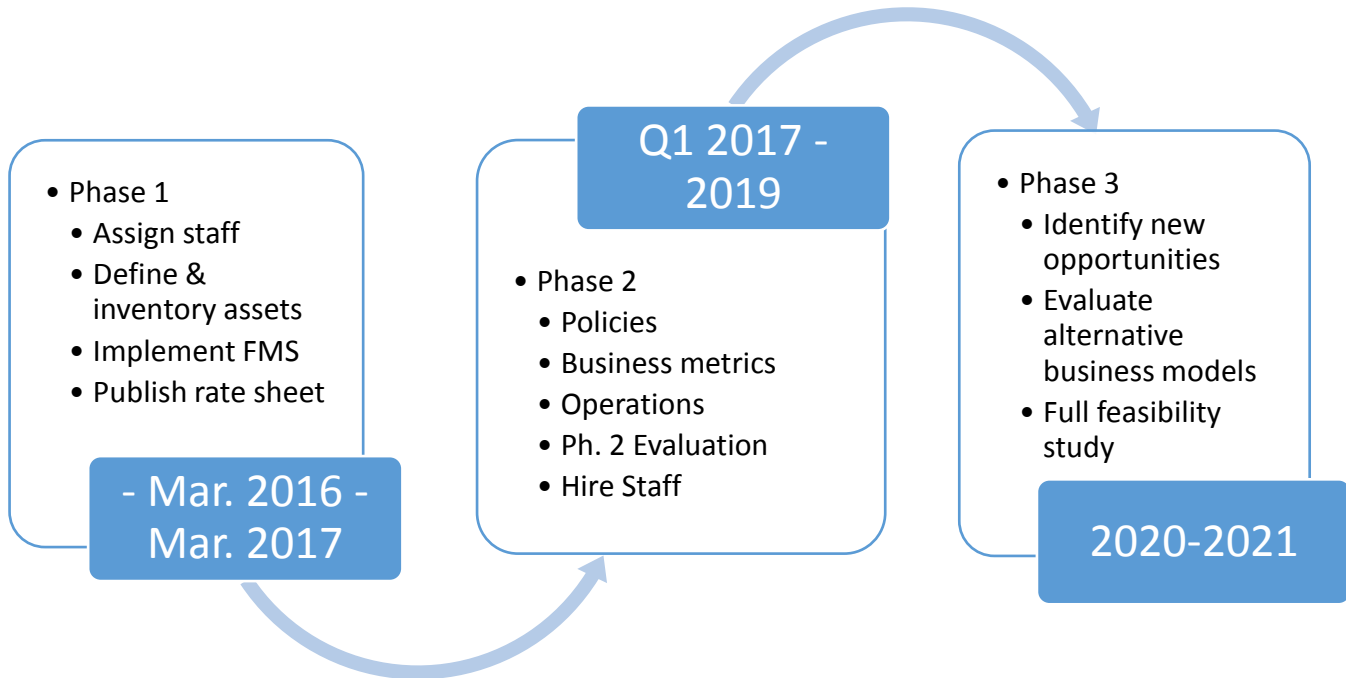
Staff recommended and the Board approved an expenditure of \$300,000 to support the appointment of a half-time staff member to participate and lead the efforts to develop pricing policies and standardization of leasing agreements (estimated at \$70,000/year) and the purchase and maintenance of a fiber inventory technology solution (estimated at \$230,000). Ongoing annual costs to support Phase 1 is estimated at \$135,000 total annually to support the business development effort, ongoing software maintenance, and related activities. Current costs to maintain the dark fiber system for existing contract customer use is estimated at \$45,000 per year. This current expense includes minor staff time allocation for three employees and approximately \$10,000 per year for replacement materials and supplies. It is expected that Phase 1 could be started in the current fiscal year, with concurrent or near-term serial implementation of several of the Phase 2 recommendations over the proposed two year budget cycle. The following Table summarizes the expected startup and ongoing costs for Phase 1 activities. Phase 2 costs are dependent on reaction/uptake to a published fiber rate, but are largely expected to be handled by internal staff. Allocation of those staff to a specific fiber cost center could shift costs internally and more accurately reflect the cost of those activities, but are not expected to significantly increase overall costs within RPU.

Phase 1 Expected Costs (including internal staff cost allocation)		
<u>Activity</u>	<u>Initial/Startup Cost</u>	<u>Annual/Ongoing Cost</u>
Internal Project Manager (0.5 FTE) – fully loaded labor cost, from current headcount	\$70,000	\$70,000
Policies, rate setting, contract/agreement review and drafting (internal labor and consulting services)	\$50,000	\$20,000
Inventory and documentation of existing fiber assets (internal labor and outside resources)	\$30,000	\$15,000
Implement and manage ongoing support of fiber management system (purchase, annual support and internal labor)	\$150,000	\$30,000
Sub-Total Phase 1 Activities	\$300,000	\$135,000
Current staff cost allocation and maintenance materials	45,000	45,000
Total	\$345,000	\$180,000

Staff also recommended to the Board the establishment of a Designated Reserve to fund future fiber activities under the proposed business plan. Annual revenue of approximately \$455,000 has been stable for the past three years or more. Establishment of some reserve level through the ten-year proforma review and creation of an accounting mechanism to segregate and track revenue and expenditures was recommended and will be brought back for Board and Council consideration in late 2016.

Implementation Timeline

Staff recommends implementation of the Phase 1 recommendations during calendar year 2016. Some aspects of the Phase 2 recommendations could be addressed with Phase 1 activities, but are more dependent on recruitment and retention of a project manager with fiber business experience. Strategic expansion of the fiber system as outlined in the third phase of the plan would follow two to three years after the completion of Phase 2 recommendations and assessment. A tentative timeline follows.



FISCAL IMPACT:

Phase 1 startup costs are estimated at \$300,000, with ongoing costs of \$135,000. Addition of Phase 1 to current operations would increase total costs of fiber operation to \$345,000 for year one and \$180,000 thereafter. These costs are offset by current fiber leasing revenue of \$455,000 per year which is expected to increase through a more formal deployment of a fiber business model. Funds are budgeted and available in the Electric Capital Other Electric Projects Account 6130000-470688 and the Administration Professional Services Account 6000000-421000. Future year costs will be addressed through the budget process.

Prepared by: Girish Balachandran, Public Utilities General Manager
 Certified as to availability of funds: Brent A. Mason, Finance Director/Treasurer
 Approved by: John A. Russo, City Manager
 Approved as to form: Gary Geuss, City Attorney

Attachments:

1. Magellan Advisors' Fiber Business Model Report
2. Magellan Advisors' Policy Templates Appendix
3. Presentation
4. Public Utilities Board Meeting Minutes from January 22, 2016