

Introduction

The Broadband Study Committee in the Town of Fairhaven has worked with EntryPoint Networks for the past 18 months to develop and implement a Broadband Masterplan. The focus of this work has been to develop a sustainable strategy and financial model for a publicly owned open-access fiber-optic system that will be available to all residents, businesses, and anchor institutions within the boundaries of the Town. The financial feasibility for this project has been validated by EntryPoint, a municipal broadband consulting firm, Biarri Networks, an Engineering firm, and Comm-Tract, a fiber network construction firm. Fiber is an investment in long-term value which leaders in the Town of Fairhaven now view as essential infrastructure. As a growing number of companies embrace distributed work, only communities with 21st-century fiber broadband access will be viable places for those workers to live. The challenge of fiber optics is its high upfront construction costs. The Town of Fairhaven is requesting matching grant funds from the State of \$500,000 to establish the Operational Backbone of this network.

Project goals

Successful public projects are properly risk adverse and require solid public support. The goal of this project is to address those needs by establishing a publicly owned core network for an open access fiber optic system, establishing a services marketplace, and connecting between 50 and 100 pilot homes.

Specific goals include:

- 1 – Creation of an online signup portal to begin data collection to determine areas for pilot installations.
- 2 – Installation of open access hardware/software necessary to support automated marketplace for the initial service providers and subscribers (\$33K – 90 days)
- 3 – Installation of the initial fiber access locations along the backbone (\$110K each, suggesting 3 would total \$330k – 120 days)
- 4 – Installation of network switch equipment to include provider edge, core, access top of rack, and access network equipment and out of band management (\$55K – 30 days)
- 5 – Installation/construction of fiber to selected pilot homes (\$2.5K each, suggesting a minimum of 50 would total \$125K and a maximum of 100 would total \$250K – 180 days)

TOTAL BUDGET between \$543K and \$668K which could be modified up or down by adding or subtracting either fiber access locations or pilot participants. All the above activities would run concurrently with total start to finish requiring 6 months.

Project Benefits

- 1 – Utility operations clearly established with real world verification of:
 - 1- Construction costs to expand the network
 - 2- Subscriber costs both capital, operational, and service
 - 3- Operational foundation created including services marketplace thereby eliminating or greatly reducing areas of uncertainty
 - 4- Vastly improves public outreach, understanding, and education through the establishment of real-world operations capable of providing actual costs

5- Pilot participants used as public engagement and educational assets to assist with expansion

Stakeholders and roles

1 – Town of Fairhaven, MA has primary leadership role providing public engagement, coordinating project funding, providing project funding match for grant, access to existing infrastructure, and onsite general oversight.

2 – State of Massachusetts to provide grant funding

3 – EntryPoint Networks to provide off site oversight and coordination, including materials and labor procurement, network installation and turn up, initial network support, town staff, subscriber, and public education.

4 – Pilot home participants to provide access and necessary support for initial installation and expansion support for the benefit of the town.

Value Summary

The value of an operational open access system cannot be overstated. Logically, open access makes sense as it separates the infrastructure from the services in the same manner that our public roadways are built and maintained apart from the services that use them. The challenges of establishing the system including the initial marketplace and educating the community about the benefits are significant factors that must be overcome. Other communities have found that establishing a core operational network capable of incremental expansion that serves a limited number of pilot homes and creates an initial open marketplace serves meets the educational needs of securing and demonstrating costs for all of the stakeholders, cementing the operational model and driving community support by providing local experience and education. This initial investment on the part of the Town and State effectively de-risks expansion of the utility by providing the necessary tools to help the community determine costs and demand.

This project has the potential of benefitting not just Fairhaven, but the entire state as the marketplace will naturally expand to surrounding communities desiring a similar installation in their area. Experience has also shown that surrounding incumbent monopoly broadband providers will be motivated to maintain lower prices in view of the potential competition, while many will eventually enter the open access municipal marketplace. The resulting data will also allow surrounding Massachusetts communities to determine their costs and demand with vastly improved accuracy.