

Municipal Broadband: Early Findings and Recommendations





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What is Broadband?

Federal Communications Commission standard for broadband internet:

25 Mbps download / 3 Mbps upload. In reality, this is a low threshold and essentially dial-up speed compared to other nations globally.

- According to FCC 24 million Americans still lack fixed terrestrial broadband at the standard level
- These days internet access is an essential part of life and is needed for: finding a job, finding a doctor, work, education, entertainment, connecting with family & friends, and more.

“The availability of sufficient broadband capability can erase the distance to high-quality health care and education, bring the world into homes and schools, drive American economic growth, and improve the nation’s global competitiveness. New technologies and services such as real-time distance learning, telemedicine, and higher quality video services are being offered in the market today and are pushing demand for higher broadband speeds.” (FCC Report 2015)



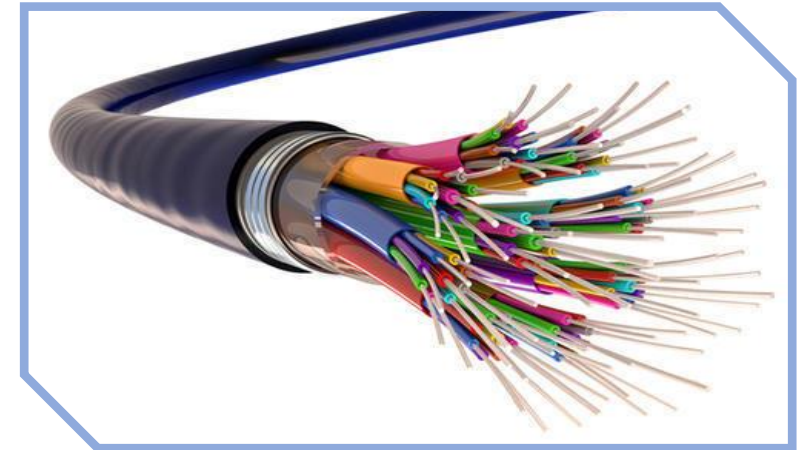
What is Fiber?

Optical cable made of glass surrounded by a jacket. Fiber cables are used to transmit light signals to deliver information digitally (bits/bytes).

Fiber is capable of transmitting information 60 times faster than copper connections.

Fiber Optic Networks

The cost of fiber networks is mostly the labor to put underground conduits; operating costs are lower than cable or wireless



What is Fiber?

There is still fiber in the ground today that has been actively used since the 1980s. The lifespan of fiber can be more for than 40 years.

Fiber strands last for decades, and capacity can be increased by upgrading the lasers on each end without having to lay new fiber

Fiber Optic Networks

Fiber optic networks are reliable, resilient and use technology that offers nearly unlimited expansion. Has fewer points of failure than copper and cable networks



Expert Perspectives: What was learned?

Lee Comer, Foresite Group

The 4 components to a broadband program:

1. Network Owner
2. Network Operator
3. Service Providers
4. Consumers

Fiber is superior to copper and most traditional telecommunications delivery systems

Planning Progression



Expert Perspectives: What was learned?

Michael Watza, Attorney at Kitch

1. Legal landscape, recent legislation, METRO Act permitting, state and federal funding mechanisms
2. A city's right-of-way is its most valuable asset, consider how to utilize this asset carefully
3. Strengths, considerations and barriers of implementing a broadband program



Expert Perspectives: What was learned?

Joe LaRussa, Farmington Mayor Pro Tem

- View broadband infrastructure alongside roads, water, sewer, other utilities
- Broadband internet infrastructure is an investment in the future
- Incorporate broadband and internet connectivity into the planning process
- Whatever the conclusions/outcomes are – incorporate broadband in planning tools



Expert Perspectives: What was learned?

Joe LaRussa, Farmington Mayor Pro Tem

Farmington and Farmington Hills are choosing to have private provider invest and operate fiber. Other Michigan communities (Traverse City, Holland, Marshall) have chosen to implement other broadband programs.

There are multiple models:

4 Models for Building Network

- I. PUBLICLY-OWNED OPEN NETWORK
- II. PRIVATE INVESTMENT, PUBLIC FACILITATION
- III. PRIVATE EXECUTION, PUBLIC FUNDING
- IV. SHARED INVESTMENT AND RISK



Recommendation

We learned much from the three speakers as shown in the highlights.

A key learning is that there is still much we do not know or do not have the in-house capability to learn.

City Staff recommends creating a RFQ for a consultant with technical expertise to study and analyze the broadband infrastructure and connectivity landscape within the City of Novi



Recommendation

The purpose, outcome, and expectation of hiring a consultant would be:

1. Obtain and inventory current internet infrastructure:

- a) Evaluate current broadband infrastructure
- b) Gather community input
- c) Assess current upload/download speeds
- d) Investigate mobile/cellular access
- e) Provide an expert perspective on technology solutions, telecom networks, and funding models.

2. Framework on how to plan for the future:

- a) Community Assessment or Feasibility Study
- b) Broadband Master Plan? Review and revise current ordinances? Technology and Connectivity Plan?
- c) Map out existing infrastructure, provide options for future roadmap



