

## Broadband and Cell Service

### Goals

The Commonwealth must ensure that rural areas with existing and newly acquired broadband use it robustly to enhance the economy, and keep municipally-owned networks sustainable. And we must address the next infrastructure deficit in rural areas – lack of cell coverage.

### Key Issues

#### *General Description of Focus Area and issue*

Broadband is critical in every aspect of daily life at work, at home and at school. More than a decade ago, it became clear that public investment was required to bring broadband to the most rural communities of MA. After substantial state, federal and local funding investment, Massachusetts is on the cusp of achieving the goal of ubiquitous broadband coverage. Nearly all of the remaining 45 unserved towns in western MA have a path forward and work is underway to expand cable networks and build municipal fiber and wireless networks. While there are still hurdles and expense, attention needs to shift to sustainability and usage in western and central MA and to bandwidth expansion on the Cape and Islands.

Additionally, much of rural Massachusetts lacks reliable cell phone service. As technological advancements in transportation and communication are expected to more fully rely on cell coverage, rural Massachusetts is at risk of again being a technology have-not.

#### *Examples that highlight the issue*

Make Ready costs is the work required to adjust existing wires on poles to make room for broadband fiber. In Heath (population 706), this will cost \$1.8 million because many poles are more than 80 years old and need to be replaced. This cost is largely borne by Heath, the entity wanting to add equipment to poles.

Open Cape owns and manages 550 miles of fiber, serves the Cape and surrounding communities and was created to provide broadband to businesses, government and hospitals in unserved areas of the Cape. Areas of the Cape that already had cable broadband now struggle with an aging copper and coaxial infrastructure that cannot meet summer demands. Businesses in Falmouth do not have enough bandwidth to process credit cards. Outer Cape beaches do not have enough bandwidth to provide emergency communication.

85% of households subscribe to Leverett's municipal fiber network, the first municipally-owned fiber-to-the-home network in MA. In 2014, before the network began providing service, a home for sale was on the market for an average of 166 days. In 2018, homes averaged only 95 days on the market and local realtors note that properties known as hard to sell are now selling.

### Existing Policies and Programs –

Last Mile Broadband Program – State bond funding, managed by EOHED and the Massachusetts Broadband Institute (MBI), was allocated formulaically to 45 unserved and 9 underserved communities

for broadband expansion. This funding is being used to incent cable companies to extend their networks into unserved areas and for communities to develop municipal fiber or sub-regional wireless networks. State funding totals approximately 40% of the cost to build municipal fiber networks.

MassBroadband 123 – This is a publically-owned middle mile fiber network located in central and western Massachusetts. The network includes more than 1,000 direct access points in town halls, libraries, schools and public service organizations. The current pricing structure to access broadband service through these connections limits use of this significant public infrastructure asset.

Federal Communications Commission (FCC) Mobility Fund – The FCC is in the process of administering the Mobility Fund to grant federal money to wireless carriers for unserved areas. There are pockets of Massachusetts that are eligible for these funds that will be distributed to bidding wireless carriers but it's unclear at this point if any wireless carriers will submit bids.

## **Best Practices**

**Broadband adoption critical to economic growth.** Cornell University studied two non-metro counties with similar characteristics before and after broadband availability to determine the economic impact of broadband. Findings show that broadband adoption is more important to economic growth than simply availability. Counties with an adoption rate of greater than 60% had significantly higher growth in median income, lower unemployment rates and higher growth in number of firms and total employment. In 2014 the MBI studied broadband adoption and developed a concept paper on adoption measures, “Digital Opportunities for All”, that could be used in MA to enhance usage and digital literacy. The recommendations from this work included:

- Integrate broadband adoption and digital inclusion into state policies.
- Create digital education and literacy training programs targeting key non-adoption populations.
- Provide discounted service options for low income households and low income businesses.
- Create an inventory of public computer centers and training programs.

The recommendations were never fully vetted or pursued but are an excellent starting point for MA to now concentrate on broadband adoption, usage and literacy.

## **Maine’s “An Act To Establish Municipal Access to Utility Poles Located in Municipal Rights-of-way.”**

This recently passed legislation exempts municipalities from “make-ready” fees when they’re attaching equipment related to community safety or providing broadband services to unserved or underserved areas.

## **Recommendations**

**Utilize broadband to accelerate economic activity and growth in rural areas.**

- **Implement a digital literacy program for small business owners in newly served areas.**
- **Create innovation hubs in remote locations with gigabit speed broadband.** Work with EOHEd, MassDevelopment and MTC to develop innovation and small business support hubs in rural regions.

**Create a revolving loan fund for broadband bandwidth expansion.** Massachusetts would benefit from bandwidth expansion for existing and future business, commercial and industrial use. A revolving loan fund for targeted municipal investment will keep MA competitive.

**Conduct a data-driven assessment to determine the extent of cell coverage in rural MA.** Much of rural MA lacks cell service but comprehensive, up-to-date data does not exist to understand the extent and severity of this issue. A detailed assessment study is needed to understand and to start to develop strategies about how to address this growing problem.

**To ensure the continued viability of the MassBroadband 123 network, lower the pricing structure to access the network.** Current pricing is too high for the network to be used by many municipalities and other service organizations, which weakens the sustainability of the network and results in underutilization of this infrastructure asset.

**Release Bond funding earmarked for fiber expansion in Falmouth, Hyannis and Provincetown.** The Comcast cable network is not designed to serve the summer swell of visitors to the Cape. Expanding fiber to village centers for business use is needed.

**Ensure the completion and viability of municipal fiber networks.**

- **Broadband ‘make ready’ costs that are above modeled estimates should continue to be covered by the Commonwealth.** Municipalities building fiber networks based their bonding on costs estimated by the MBI. For some municipalities, actual make ready costs are far exceeding estimates.
- **The Commonwealth should consider subsidizing initial homeowner access costs to ensure municipal broadband network sustainability and high adoption and usage rates.** To ensure small municipal network sustainability, at least 70% of homeowners must subscribe for service. The Commonwealth should consider supporting installation costs for all or some (e.g. low income, elderly) homeowners.

**The Make Ready process should change to better recognize the infrastructure benefit received by pole owners and to reduce costs for project proponents.**

- **The Commonwealth should adopt something like the FCC’s new One Touch Make Ready (OTMR) Policy.** OTMR is designed to simplify the make ready process and promote coordination between entities that move wires on a pole (Verizon, Eversource, National Grid, Charter, Comcast, MBI and others).
- **Utility companies should be required to make initial infrastructure investments to aged infrastructure.** Pole owners should be required to replace, at their cost, any pole that is 50 years old or older and/or is less than 45 feet tall.
- **Municipal investment to improve privately owned infrastructure (poles) should be recouped.** DOR should tax pole owners a higher tax rate for new infrastructure and legislation should be pursued that would disallow pole owners from charging annual pole rental fees for municipal infrastructure.

Stakeholders consulted: Many people, agencies and organizations were consulted in the drafting of this Plan. Recommendations contained in this document are not necessarily supported or endorsed by all parties listed below.

EOHED

DTC

MTC

MBI staff and Board

JAI

Open Cape

Municipal Broadband Committees

Realtors

Legislators

**Cornell University reference** <https://cardi.cals.cornell.edu/publications/research-policy-briefs/broadband%e2%80%99s-contribution-economic-health-rural-areas>