

MBI Last Mile Town Profiles

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MBI

MASSACHUSETTS
BROADBAND INSTITUTE



at the MassTech
Collaborative



About the MBI Last Mile Town Profiles

Introduction

The following pages provide town profiles for all 44 unserved towns. Each profile includes a map of the town with relevant data points such as unserved locations, connected “Community Anchor Institution” locations, MassBroadband 123 fiber optic cable infrastructure and interconnection points. The profiles also provide a breakdown of the capital expenditures and operating expenditures for each town.

The total construction costs are based on desktop modeling completed by an industry expert retained by MBI. That total cost is \$109 million for construction in the 44 unserved towns. These figures show the breakdown of the total construction cost per town, each town’s projected contribution to those costs and MBI’s proposed allocation to help subsidize the project. Additionally, these profiles include the expected increased property tax burden on each homeowner (if the town chooses to borrow the funds), as well as the projected monthly subscription costs based on various take rates.

Assumptions of Analysis

Because there are so many variables and costs underpinning the complex financing of providing a fiber-to-the-home broadband network, MBI and its consultants have made certain assumptions as part of this analysis. The modeling assumes an entirely outsourced model, whereby the towns would contract with existing industry partners for network operations, ISP services, etc. Additionally, based on industry practice, MBI has modeled each town under the assumption of a \$50,000 annual profit to provide cash reserves to cover unexpected costs and needs (for example for repairs due to ice storms or blizzards). These annual profit calculations also assume that the costs will not cover debt service for the town’s share of the build and will not cover administrative costs inuring to the town. However, MLP costs, depreciation reserves, and customer premise equipment costs are included.

Last Mile Planning

Broadband Infrastructure and Service in:
PETERSHAM, MA

Serviceable Premises

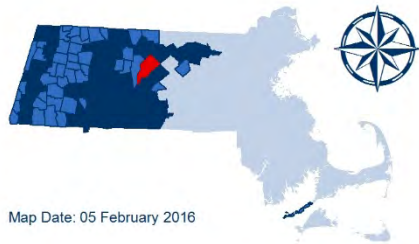
- Connected CAI Locations (5)
- Unserved Locations (534)

Existing Broadband Infrastructure

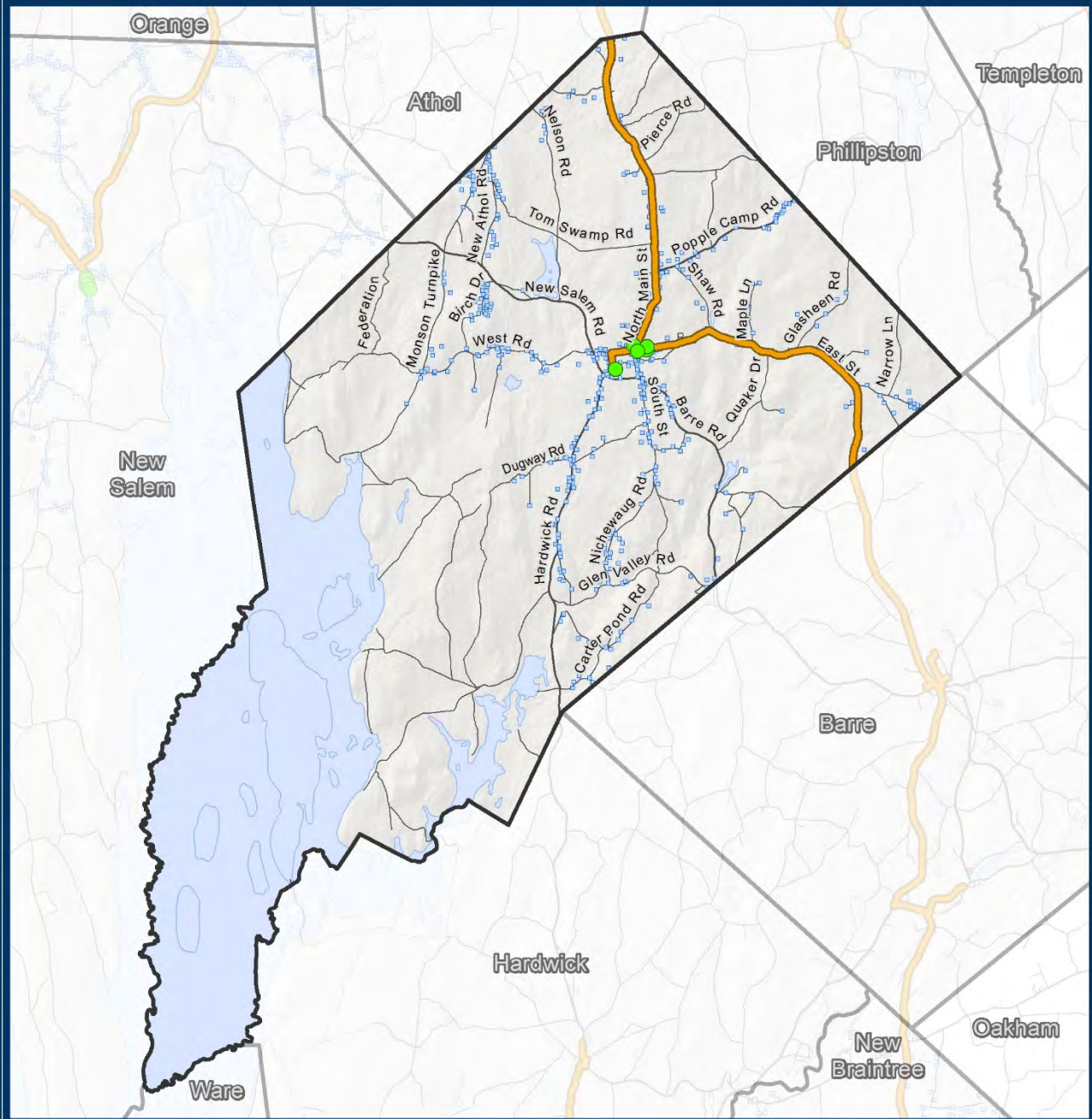
- ◆ MassBroadband 123 Interconnection Points
- 📶 MassBroadband 123 Fiber-Optic Cable

Base Map

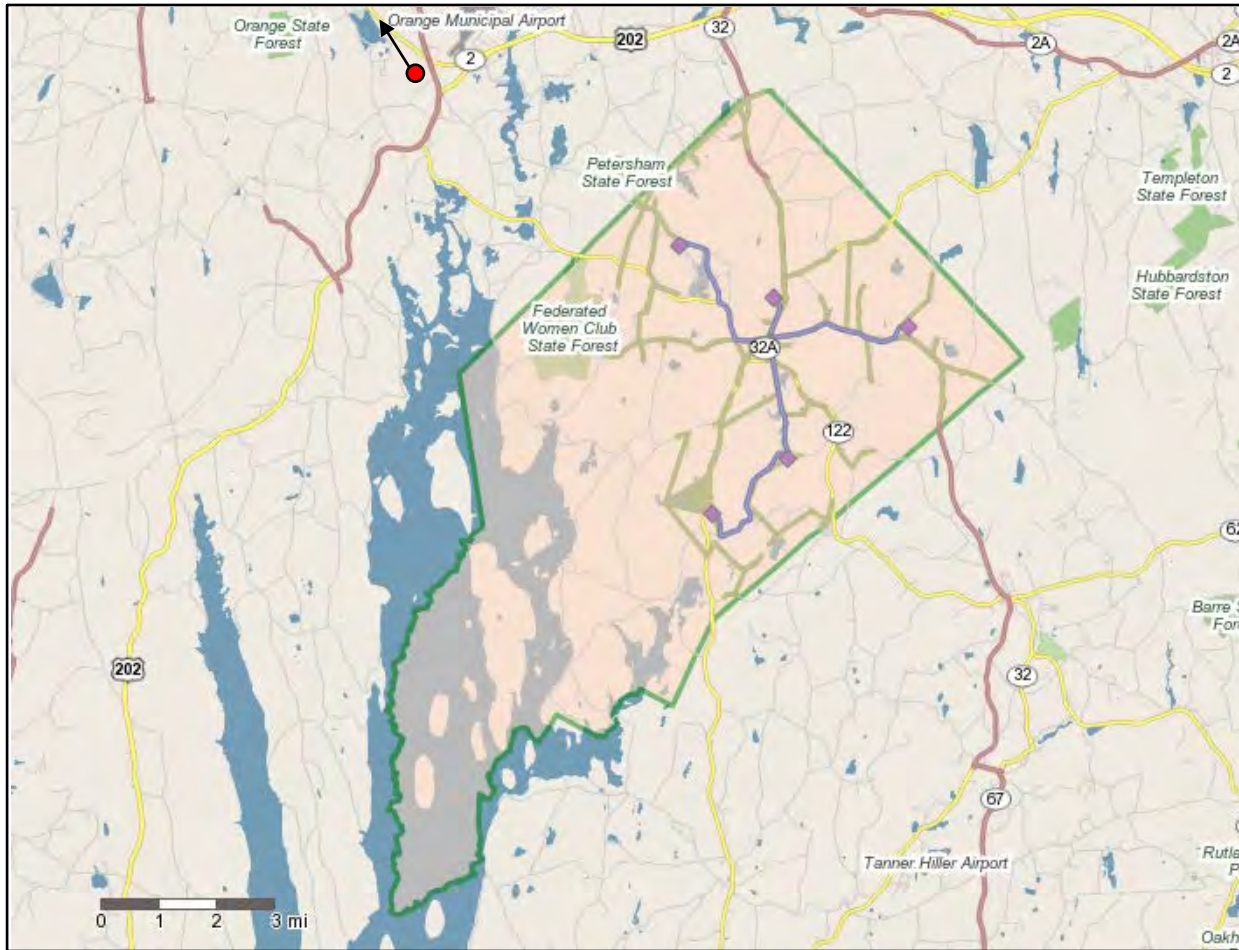
- Building Locations
- ⬜ Town Boundaries
- 🛣️ Roads
- 🌊 Water Bodies



Map Date: 05 February 2016



Petersham: Initial Model of Infrastructure & CAPEX



Modeled Network Infrastructure

- Core Fiber (existing & redundant fiber)
- Distribution Fiber (core fiber to cabinet)
- Local Fiber (cabinets to premises)
- Town Border
- Existing Point of Interconnection (POI)
- ◆ Cabinet (equipment for local network)
- ◇ Hut (equipment for entire town network)

Sources: Experian, Tom Tom, MBI, Cartesian

Fiber-to-the-Home (FTTH) network enabling service to all homes in town. Costs include all capital required for the network, network equipment, and customer equipment needed to provide broadband service.

Infrastructure Components

Households Modeled*	493
Fiber Miles Modeled	56
Poles Modeled	1375

* Approximate household locations from Experian

Capital Expenditures (CAPEX)

Estimated Total Network Cost	\$2,530,000
Construction Costs Funded by MBI	\$460,000
Professional Services Costs Funded by MBI	\$420,000
Projected Town Contribution	\$1,650,000