MBI
MASSACHUSETTS
BROADBAND INSTITUTE

at the MassTech
Collaborative

Vermont Senate Finance Committee

Massachusetts Broadband Institute Presentation

September 15, 2020

MBI Overview

The Commonwealth created the Massachusetts Broadband Institute (MBI) in 2008 as a division of the Massachusetts Technology Collaborative.

MBI works closely with the Baker-Polito administration, the state legislature, municipalities, broadband service providers, and other key stakeholders to bridge the digital divide in Massachusetts.

MBI works with the Executive Office of Housing and Economic Development to administer grants to Last Mile towns.

MBI owns and oversees the operation of the MassBroadband 123 Middle Mile Network.

MBI launched the WiFi Hotspot Program in April to support citizens in Last Mile Towns deal with the challenges of remote work and distance learning during the COVID-19 pandemic. The hotspots have been installed in 26 Last Mile Towns in community anchor buildings (libraries, schools, town halls, etc.) that are connected to the MassBroadband 123 Network.

MBI Last Mile Overview

- **The Last Mile:** To support and co-invest in broadband solutions for 53 Massachusetts towns - 44 completely unserved, 9 *under*served. Program includes direct grants to municipalities and grants to private broadband providers to cover towns.

- **Broadband:** Federal definition is a speed of 25 megabits per second (Mbps) for downloads, 3 Mbps for uploads.

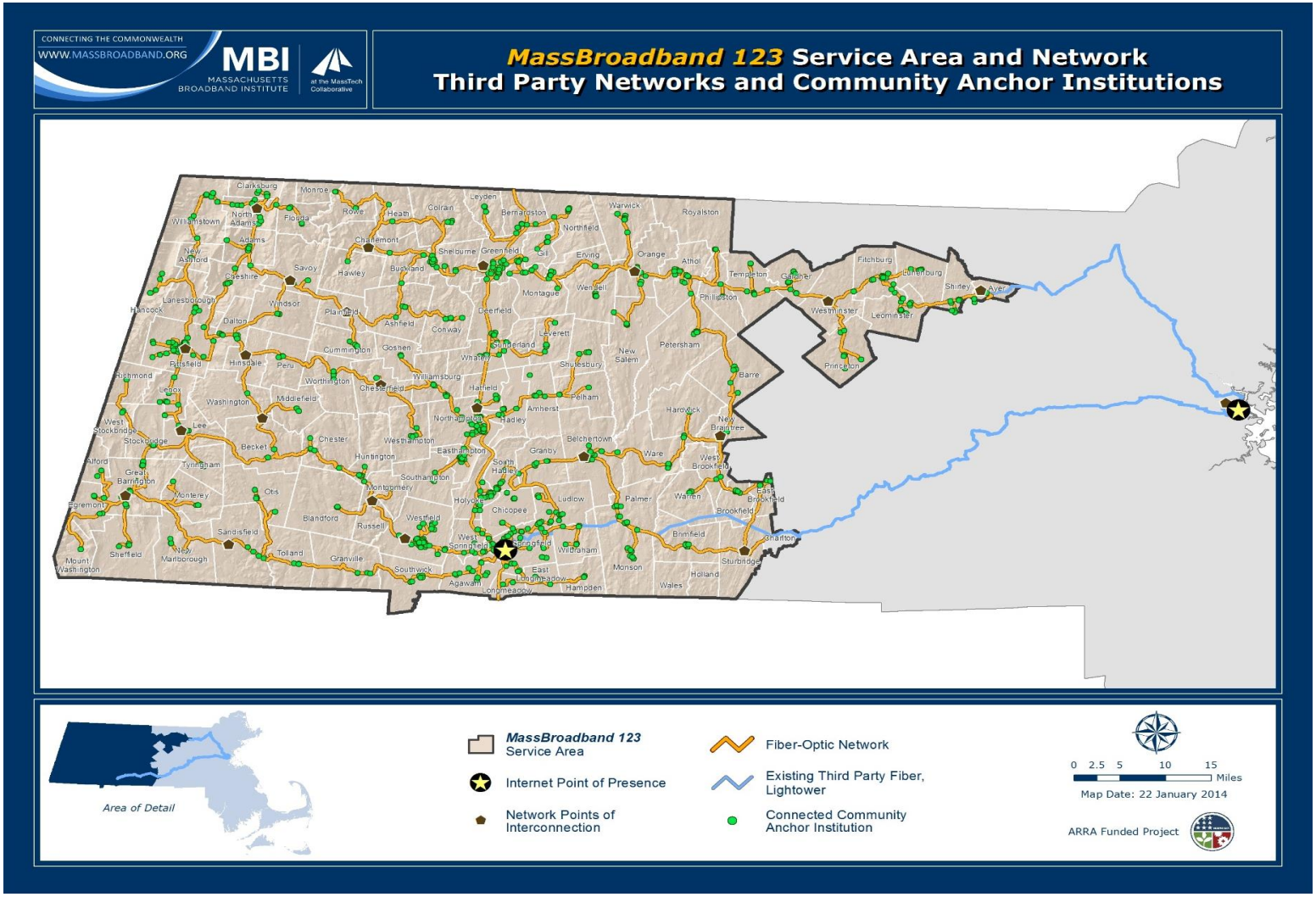
- **Challenge:** Utilize state funds to support projects which deliver broadband access to premises in rural municipalities that have low population density and high road miles.

- **Goal:** Expand connectivity to at least 96% of premises in each town.

MBI Middle Mile Overview

- State-owned, carrier grade telecommunications network
- Open-access network connects communities to network service providers, major telecommunications carriers, and the greater Internet in Boston, Greenfield, and Springfield
- 1200+ miles of fiber-optic cable (approximately 1,000 miles owned by MassTech, augmented by 200+ miles of leased fiber) that covers more than 1/3 of the geographic area of Massachusetts
- Passes through 120+ communities in western and north central Massachusetts
- Connects to 1,000+ Community Anchor Institutions, which are public facilities such as town halls, police and fire departments, schools, courts, libraries, and hospitals
- Supports critical public safety services, including e911 and CJIS, and last mile infrastructure projects in unserved towns
- Provides wholesale services to local Internet Service Providers (ISPs) that offer consumer services in the region

MassBroadband 123 Network Map



MBI MASSACHUSETTS BROADBAND INSTITUTE at the MassTech Collaborative

Last Mile Background

- The Commonwealth explored a “One Size Fits All” approach and then transitioned to a diversified, technology agnostic strategy, supporting two distinct approaches that boosted town choice: **Direct grants for fiber-to-the-home (FTTH) and wireless municipal projects** and **public RFPs to spur private provider proposals.**

- **What Didn’t Work:** Due to geography and each towns’ unique financial situation, a regional FTTH network was not viable.

- **What Did Work:** Giving towns options. For those that can manage and afford a municipal broadband project, the Executive Office of Housing and Economic Development’s (EOHED) Last Mile Infrastructure Grant program provides a pathway. For towns stymied by bonding and management, private provider options offer a sensible path.

State Broadband Funding Authorizations

- Chapter 231 of the Acts of 2008 provided the initial authorization of $40 million for the MBI Fund; These funds together with Federal BTOP funds built the MassBroadband 123 Network.

- $50 million in additional State funds were authorized under Chapter 257 of the Acts of 2014;

- A third authorization of $45 million (for MBI and EOHED) was approved by Chapter 133 of the Acts of 2017. These monies support, among other things, the Contingency Fund for unanticipated make-ready costs and a Drop Policy to support customer installations for municipal broadband projects.

Contingency Fund & Drop Policy

Contingency Fund

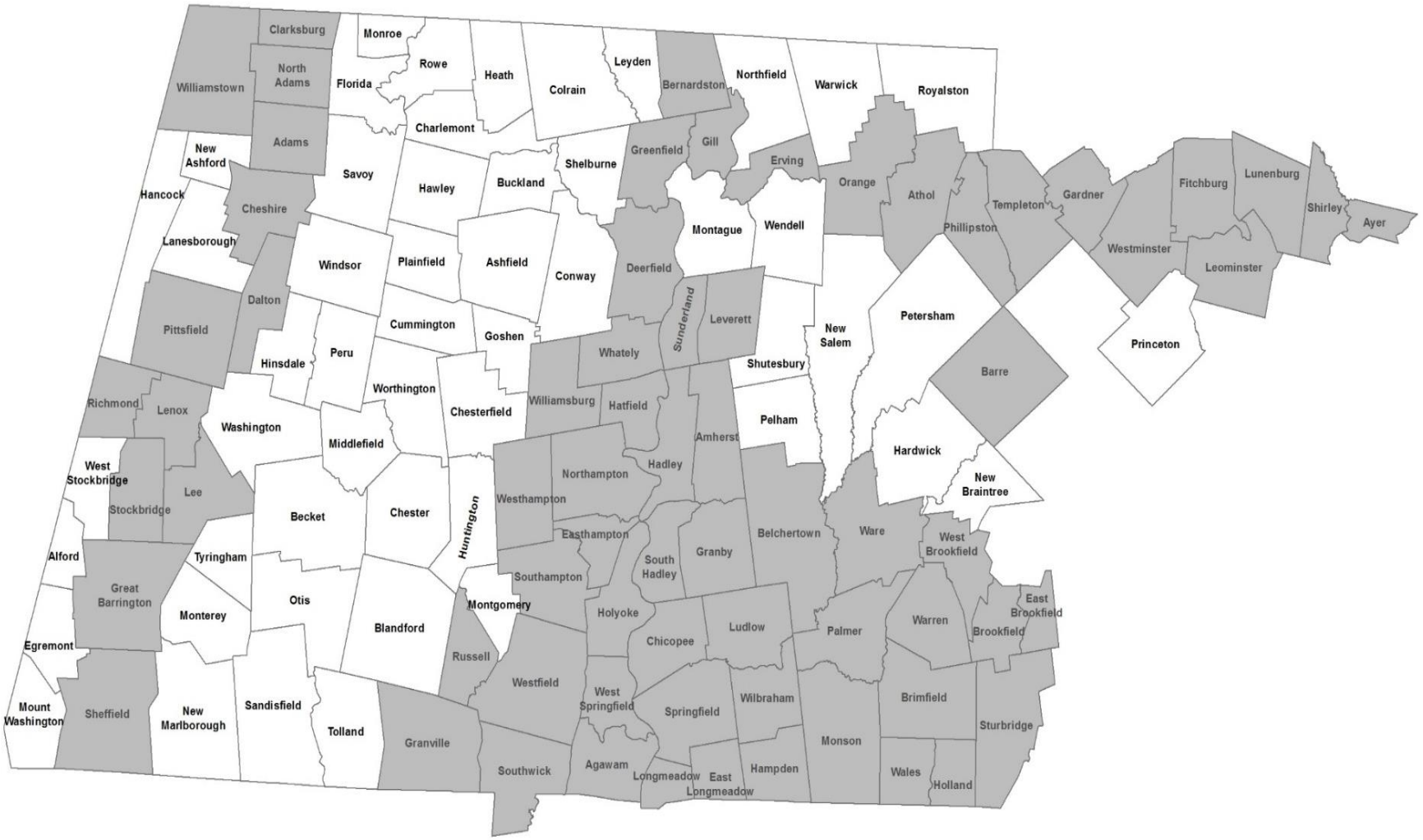
- Commonwealth has pledged to provide supplemental funds for an EOHED grantee where the make-ready cost exceeds the modeled cost.

Drop Policy

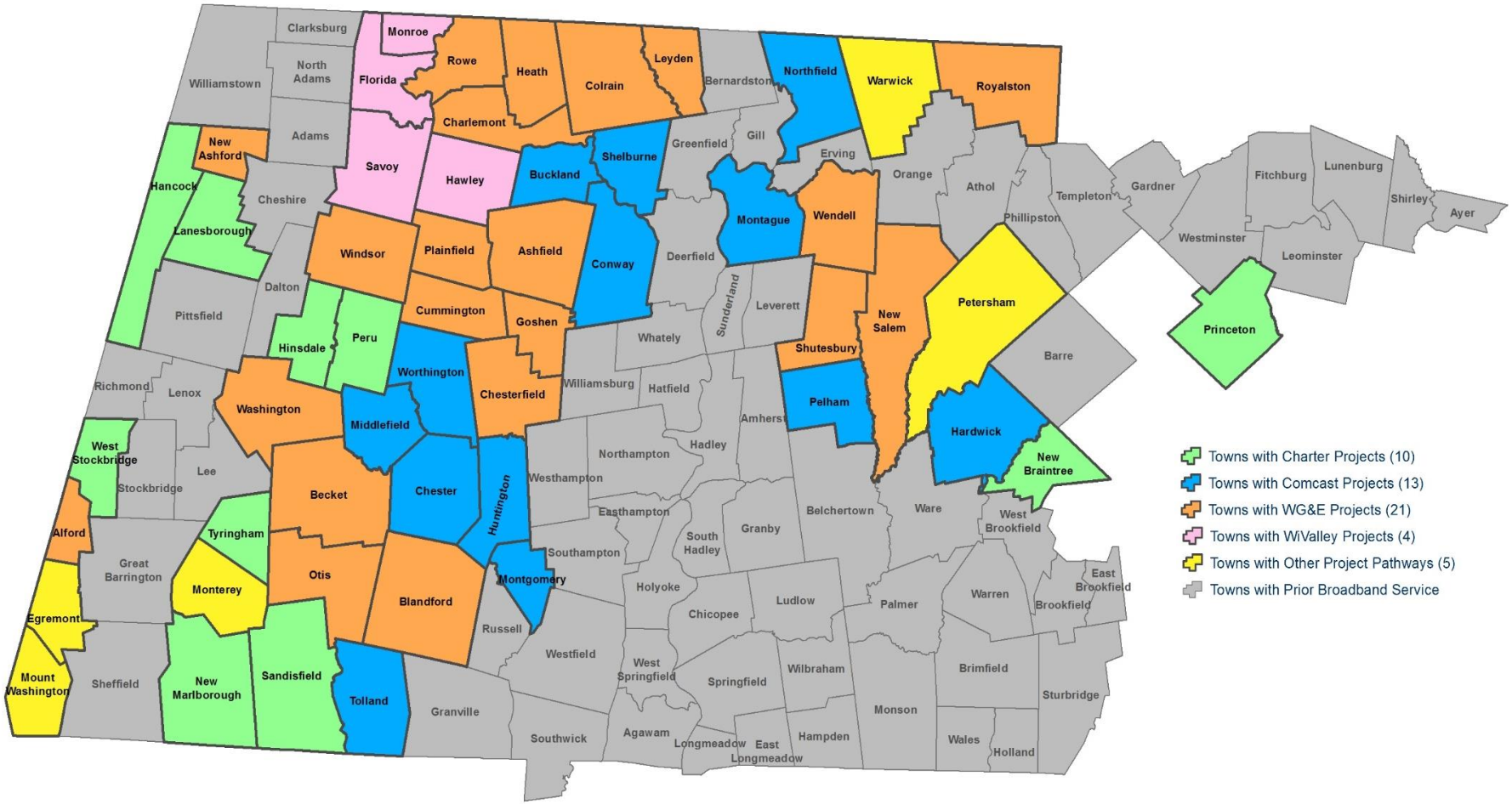
- In October 2019, the Commonwealth announced $5 million in funding to support drop costs as part of the Last Mile Program.
- The Commonwealth will contribute $500 for every home that takes service up to 70% of households per town with the goal of enhancing operational sustainability.
- This expansion is designed to better assist with the sustainability of the municipally-owned networks. There are 20 eligible communities that can apply for the funds.

Last Mile – *53 towns at April 2016 relaunch of Last Mile*

<u>44 completely unserved</u> and <u>9 'partially-served'</u> by broadband. 28K households/~100k citizens.

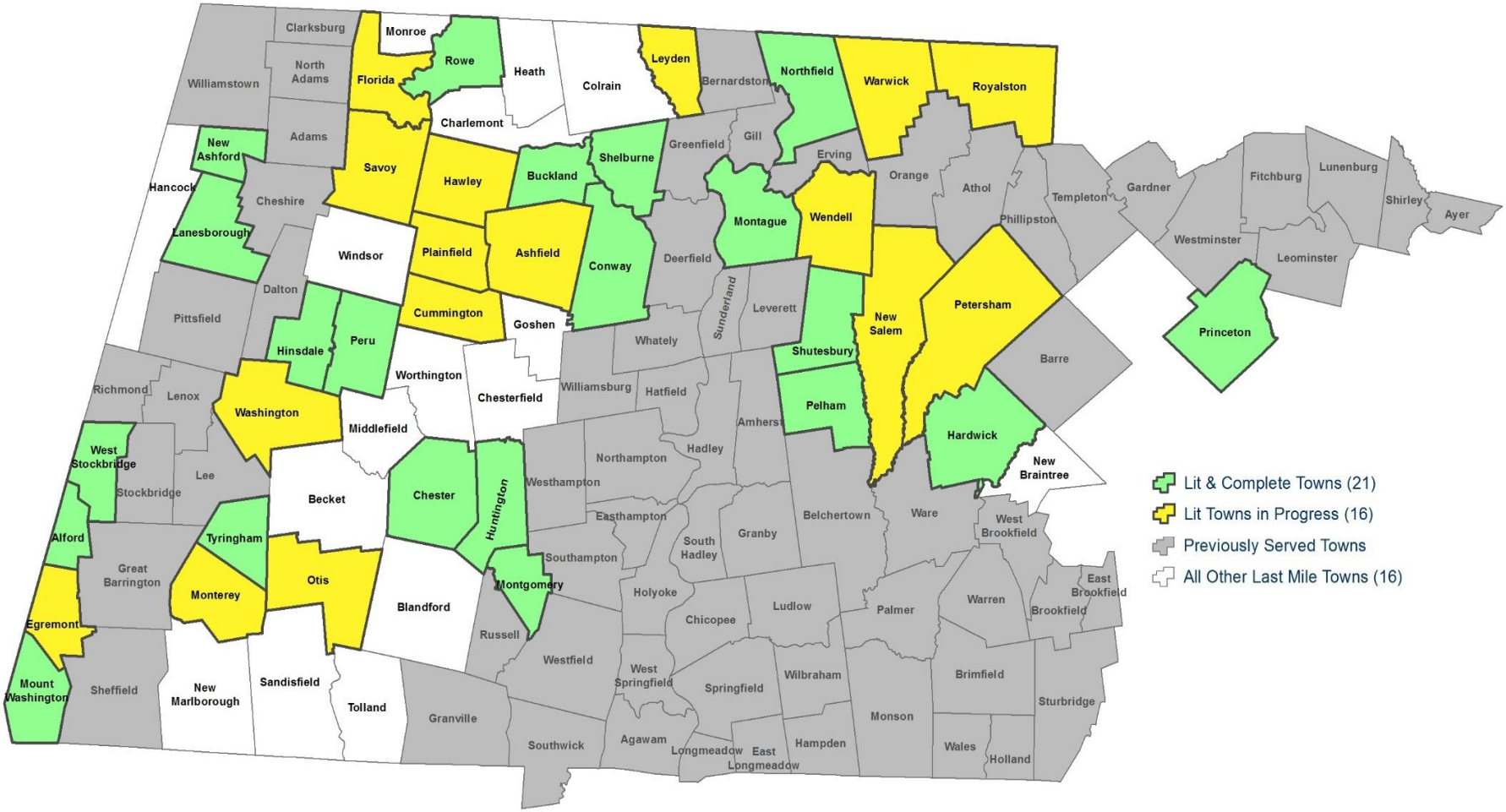


Pathways – *All 53 towns are on a dedicated path to broadband service.*



MBI MASSACHUSETTS BROADBAND INSTITUTE at the MassTech Collaborative

Lit Towns – *Today 37 of the 53 towns have subscribers receiving service.*



MBI MASSACHUSETTS BROADBAND INSTITUTE at the MassTech Collaborative

The tapestry of pathways is matched by a tapestry of funding and contract models

All broadband projects are expected to be completed by 2023.

Funding Model	Impact on Towns	Adopted by Towns
Partially-served Towns	• Broadband Extensions Program brought 9 nine towns with substantial gaps in coverage that meets or exceeds 96%. • No cost solution to the towns.	Buckland, Chester, Conway , Hardwick, Huntington, Montague, Northfield, Pelham, Shelburne
1st Round Cable Co. Responses	• Cable contracts are covered by each town's allocation. • No cost solution to the town.	West Stockbridge, Lanesborough, Hinsdale, Princeton, Peru, Tyringham, Hancock, Montgomery
2nd Round Cable Co. Responses **"Flexible Grant Program"**	• Grant awards exceed the town's allocation. • Financial responsibility for overage shared between state and town. • State fronts the money and is reimbursed by town for its share through local aid assessments	New Marlborough, Worthington, Middlefield, Sandisfield, Tolland, New Braintree
Municipally-owned Fiber Networks	• State allocation covers about 40% of the cost. • Local resources cover approximately 60% (debt exclusions, town borrowing, free cash, etc.) • Many are eligible for federal CAF funds which would help offset local contribution. • Eligible for Last Mile Contingency Fund and Drop Fund	Alford, Ashfield, Blandford, Becket, Charlemont, Chesterfield, Colrain, Cummington, Goshen, Heath, Leyden, Mount Washington, New Ashford, New Salem, Otis, Plainfield, Rowe, Shutesbury, Washington, Wendell, Windsor
Municipally-owned Wireless Networks	• Cost to town varies. • Utilizes local knowledge and expertise.	Royalston, Warwick
Municipal Coalition	• Towns agreed to aggregate their allocations. • Fixed wireless solution. • No cost solution to the towns, however agreement in place for shared responsibility for overages.	Florida, Savoy, Monroe, Hawley
Other Solutions	• These projects do not fit into any of the other categories. • Each town is partnering with a private provider that has not qualified for standard milestone payments. • The nature of the town's relationship with the private provider varies.	Petersham, Monterey, Egremont,

Key Lessons Learned to Date

- ✓ Towns have differing needs, preferences, financial resources and capacity to undertake broadband projects. Therefore, a diverse array of solutions is needed to meet the individual needs of each town.
- ✓ Many of the broadband projects are leveraging the MassBroadband 123 network
- ✓ The ability to incentivize private investment has accelerated progress
- ✓ "Make Ready" work has been a significant challenge and poses the greatest uncertainty in terms of time and cost. Engagement and coordination at the state level with pole owners has been invaluable.
- ✓ The process to license new attachments can become a lengthy and complicated process when changes have to be made to the existing wires on the poles:
  - Wires already on the poles may need to be moved to make space for the new attachment
  - A new pole may need to be set to create more space
  - A may pole need to be replaced because it is found to be damaged
  - The existing pole cannot handle the additional weight of a new attachment