

# MBI Board of Directors Meeting

January 26, 2016

**MBI**

MASSACHUSETTS  
BROADBAND INSTITUTE



at the MassTech  
Collaborative



CONNECTING THE COMMONWEALTH

[WWW.MASSBROADBAND.ORG](http://WWW.MASSBROADBAND.ORG)

## Key Focus Areas

- ❖ Broadband Extensions Program (Partial Cable)
- ❖ Update on Last Mile Activities
- ❖ Presentation/Discussion on Last Mile Sustainability Issues & Possible Next Steps
- ❖ Network Operations Update (If time permits)



# Broadband Extensions

RFQ

Complete

Request for Further  
Information

12/24/15: Sent to Both Vendors

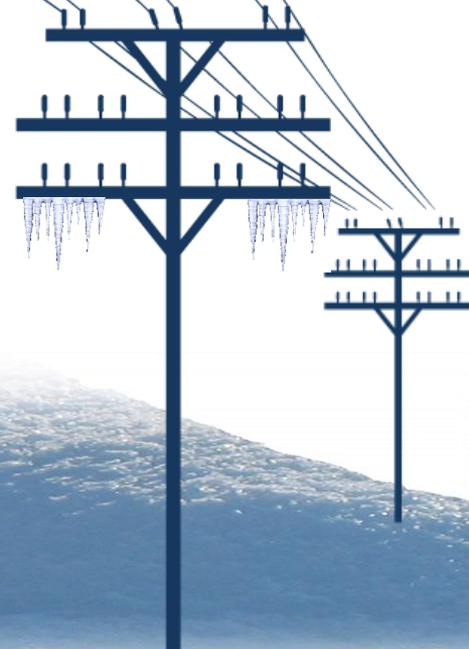
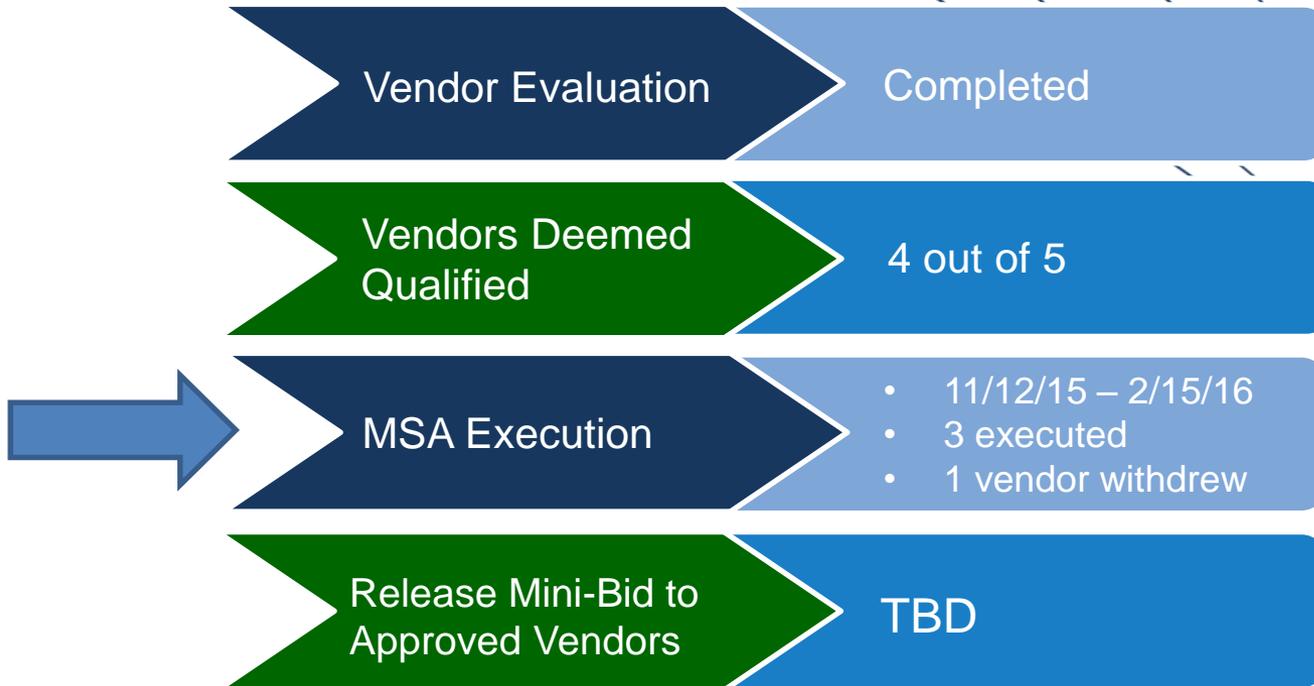
Responses Received

Comcast: 1/15/16  
Matrix: 1/22/16

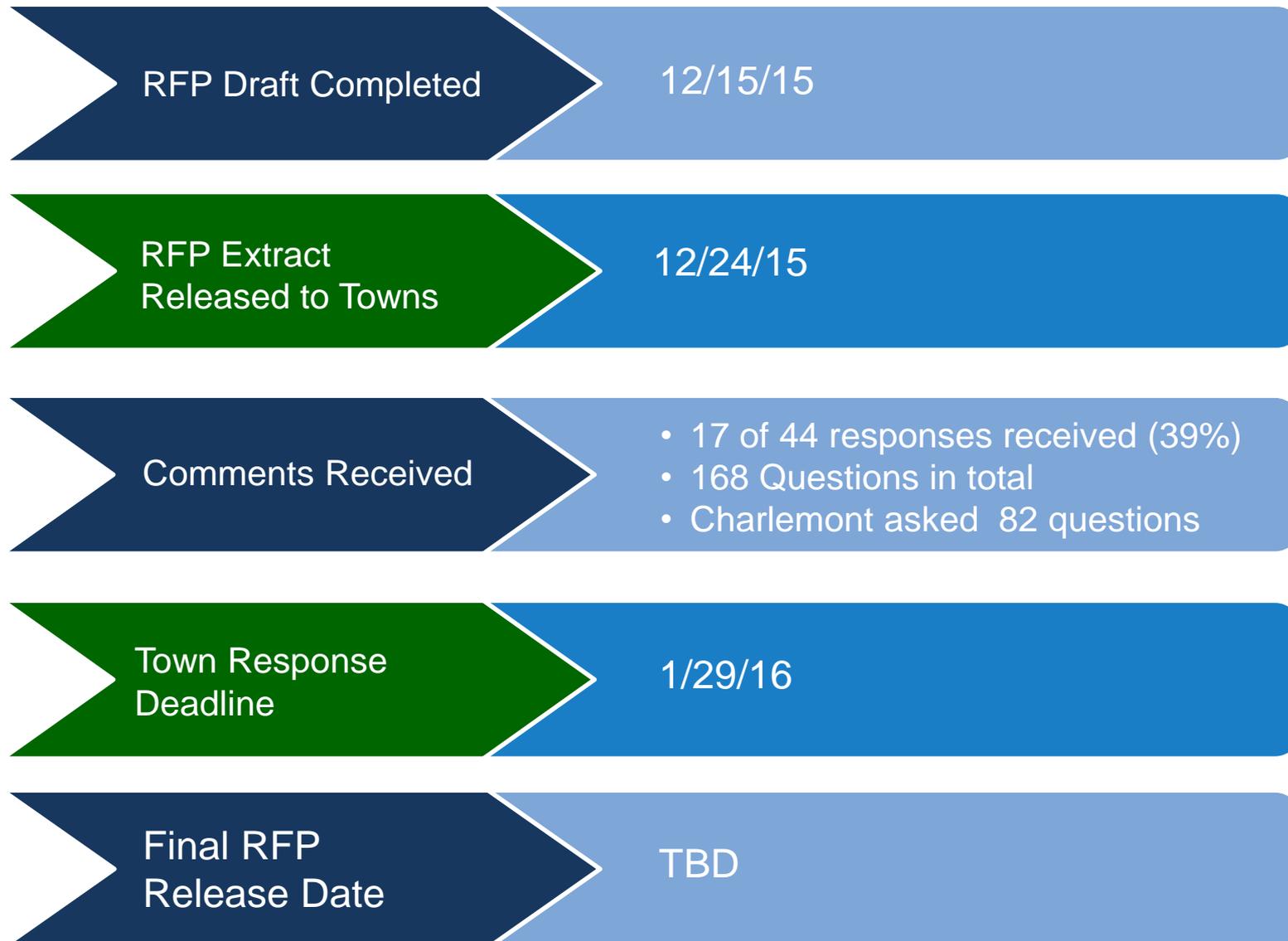
Next Steps

- Evaluate most recent response from vendors
- Meetings set up with towns
- Follow-up with Comcast and Matrix

# Pole Data Collection RFQ & Mini-Bid



# Design Engineering RFP



## \$109 Million - Total Project Costs

**Towns Not Participating**

|                             |
|-----------------------------|
| Florida - \$1,700,000       |
| Hancock - \$2,200,000       |
| New Braintree - \$1,910,000 |
| <b>\$5,810,000</b>          |

**Towns That Have Not Yet Voted**

|                               |                              |                           |
|-------------------------------|------------------------------|---------------------------|
| New Marlborough - \$4,730,000 | Montgomery - \$1,500,000     | Tyringham - \$1,380,000   |
| Hawley - \$1,540,000          | Mt. Washington - \$1,250,000 | Warwick - \$2,480,000     |
| Hinsdale - \$2,780,000        | Petersham - \$2,530,000      | Worthington - \$2,860,000 |
| Lanesborough - \$3,880,000    | Royalston - \$3,180,000      | <b>\$35,190,000</b>       |
| Middlefield - \$1,590,000     | Savoy - \$1,760,000          |                           |
| Monroe - \$1,080,000          | Toland - \$2,650,000         |                           |

**Towns Voted Yes & Allocated Funds**

|                            |                           |                              |
|----------------------------|---------------------------|------------------------------|
| Alford* - \$1,310,000      | Goshen* - \$2,150,000     | Princeton - \$4,400,000      |
| Ashfield* - \$3,710,000    | Heath - \$2,240,000       | Rowe* - \$1,300,000          |
| Becket* - \$5,900,000      | Leyden* - \$1,750,000     | Sandisfield* - \$3,610,000   |
| Blandford - \$2,800,000    | Monterey - \$3,100,000    | Shutesbury* - \$2,440,000    |
| Charlemont* - \$2,670,000  | New Ashford* - \$700,000  | Washington* - \$1,260,000    |
| Chesterfield - \$2,400,000 | New Salem* - \$2,140,000  | Wendell* - \$1,900,000       |
| Colrain* - \$3,550,000     | Otis* - \$4,870,000       | W.Stockbridge* - \$2,830,000 |
| Cumington* - \$2,210,000   | Peru* - \$1,840,000       | Windsor* - \$2,150,000       |
| Egremont - \$2,940,000     | Plainfield* - \$1,760,000 | <b>\$67,930,000</b>          |

## \$40 Million - MassTech Contribution

**Funds Allocated by  
 MasTech to Towns  
 Not Participating**

|                           |
|---------------------------|
| Florida - \$640,000       |
| Hancock - \$810,000       |
| New Braintree - \$720,000 |
| <b>\$2,170,000</b>        |

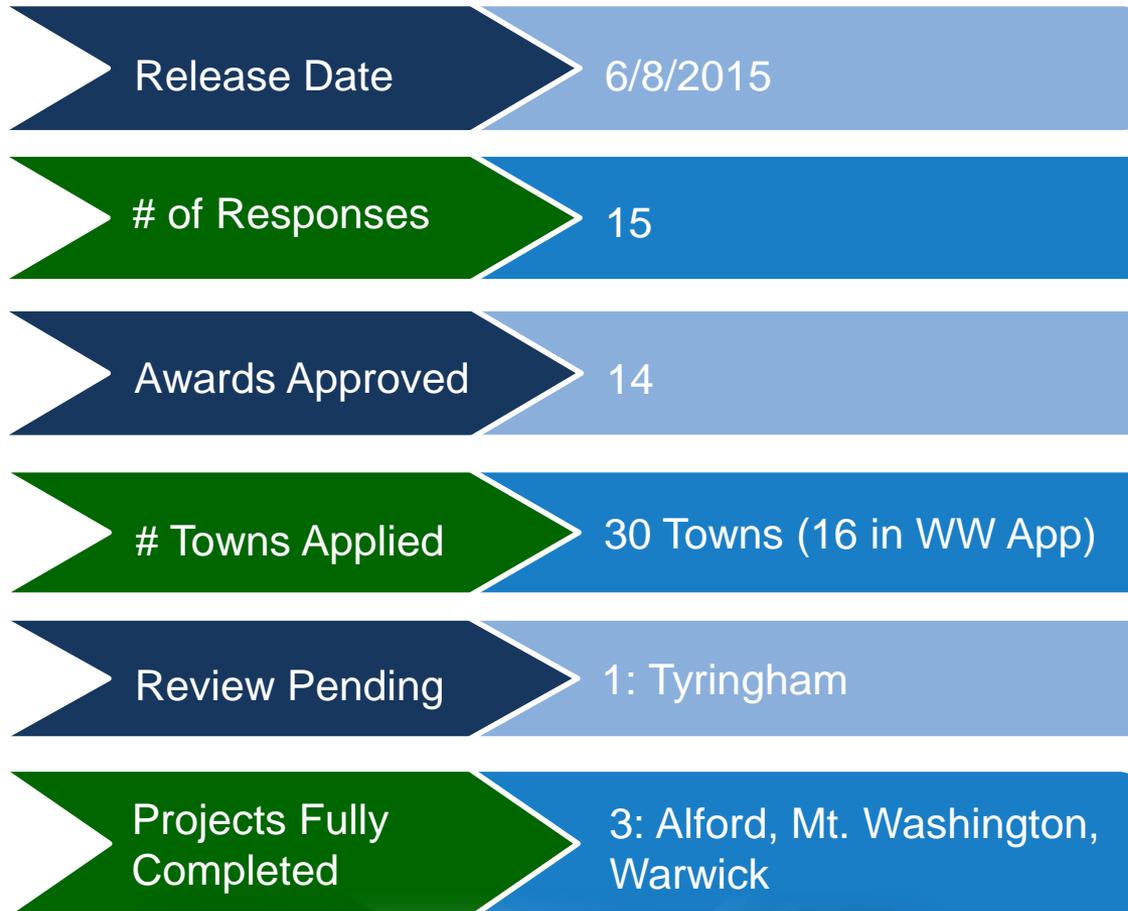
**Funds allocated  
 by MasTech to  
 Towns That Have  
 Not Yet Voted**

|                               |                            |                           |
|-------------------------------|----------------------------|---------------------------|
| New Marlborough - \$1,710,000 | Montgomery - \$550,000     | Tyringham - \$480,000     |
| Hawley - \$520,000            | Mt. Washington - \$450,000 | Warwick - \$870,000       |
| Hinsdale - \$1,010,000        | Petersham - \$880,000      | Worthington - \$1,070,000 |
| Lanesborough - \$1,380,000    | Royalston - \$1,170,000    | <b>\$12,480,000</b>       |
| Middlefield - \$580,000       | Savoy - \$650,000          |                           |
| Monroe - \$330,000            | Tolland - \$830,000        |                           |

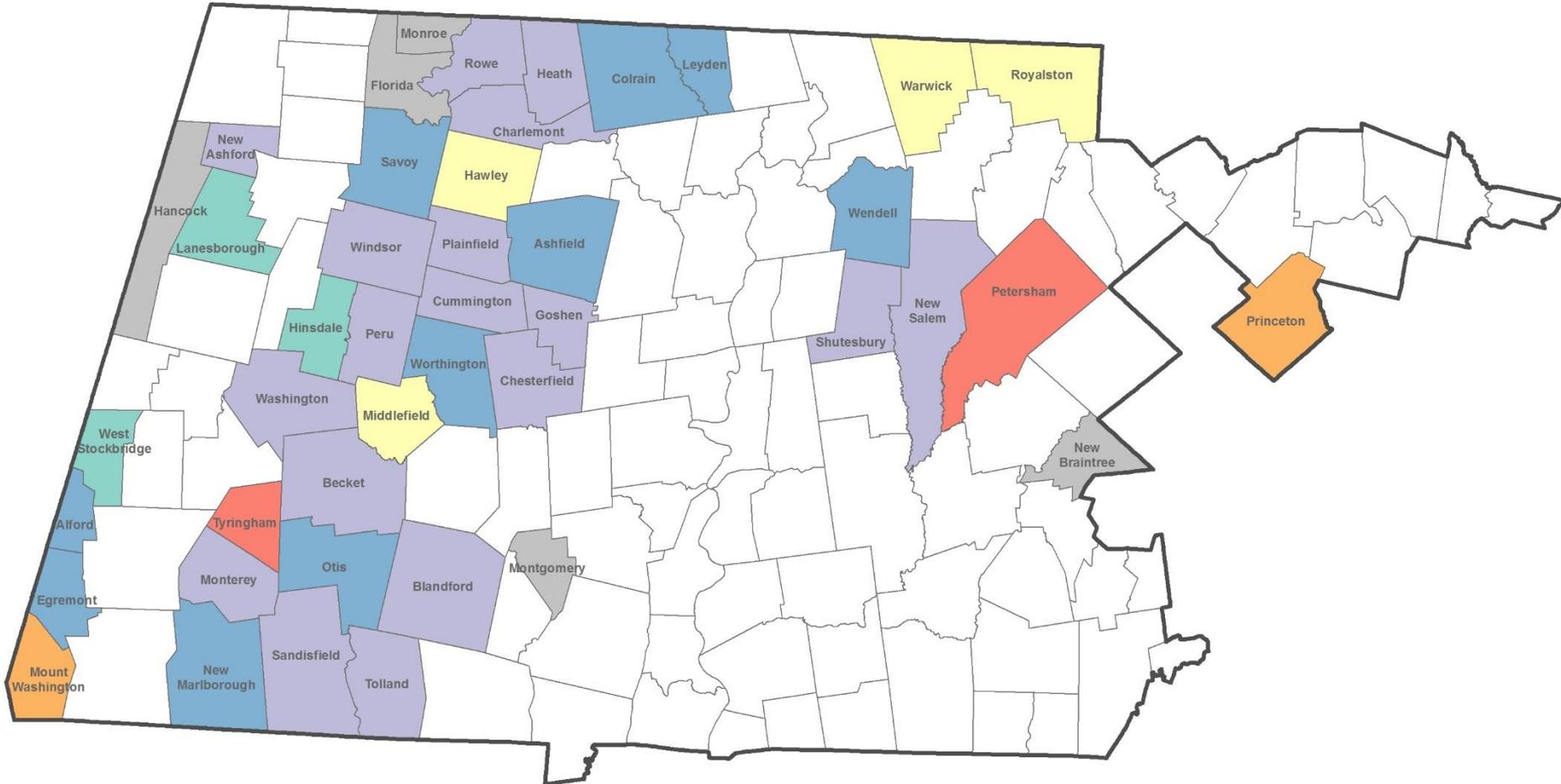
**Funds Allocated by  
 MasTech to Towns  
 That Have Voted**

|                          |                          |                               |
|--------------------------|--------------------------|-------------------------------|
| Alford* - \$480,000      | Goshen* - \$770,000      | Plainfield* - \$650,000       |
| Ashfield* - \$1,410,000  | Heath - \$820,000        | Princeton - \$1,550,000       |
| Becket* - \$2,150,000    | Leverett - \$916,000     | Rowe* - \$440,000             |
| Blandford - \$1,040,000  | Leyden* - \$680,000      | Sandisfield* - \$1,230,000    |
| Charlemont* - \$960,000  | Monterey - \$1,140,000   | Shutesbury* - \$870,000       |
| Chesterfield - \$890,000 | New Ashford* - \$280,000 | Washington* - \$490,000       |
| Colrain* - \$1,300,000   | New Salem* - \$750,000   | Wendell* - \$730,000          |
| Cummington* - \$840,000  | Otis* - \$1,770,000      | W. Stockbridge* - \$1,000,000 |
| Egremont - \$1,070,000   | Peru* - \$690,000        | Windsor* - \$830,000          |
|                          |                          | <b>\$25,746,000</b>           |

# Last Mile Planning Grants



# Unserved Towns by Proposed Projects



- |   |   |  |   |
|---|---|--|---|
|  MBI FTTP Build (10)    |  Independent FTTP Build (2)                |  Charter (3)  |  No Action (5) |
|  WW/MBI FTTP Build (18) |  Public-Private Partnership FTTP Build (2) |  Wireless (4) |  Served (78)   |

# Royalston Wireless Pilot

Duration

4 months into project

Target

50 – 60 customers

Status

40 installed, 12 pending installation

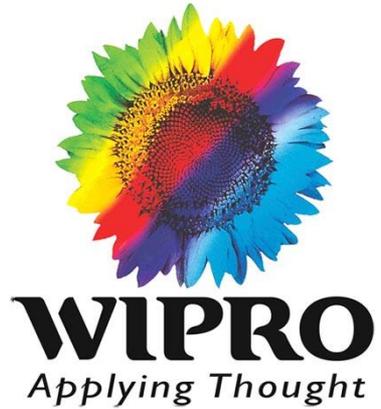
Service

25m/ 5m capabilities to pilot customers

Next Steps

- Complete pending installs (4-6 weeks)
- Sign pilot customers to two year contracts
- MBI review town wide design/ budget
- MBI approval/ Town approval





# MBI Board Presentation

January 26, 2016



# Wipro has been assisting with several work streams since the last MBI board meeting

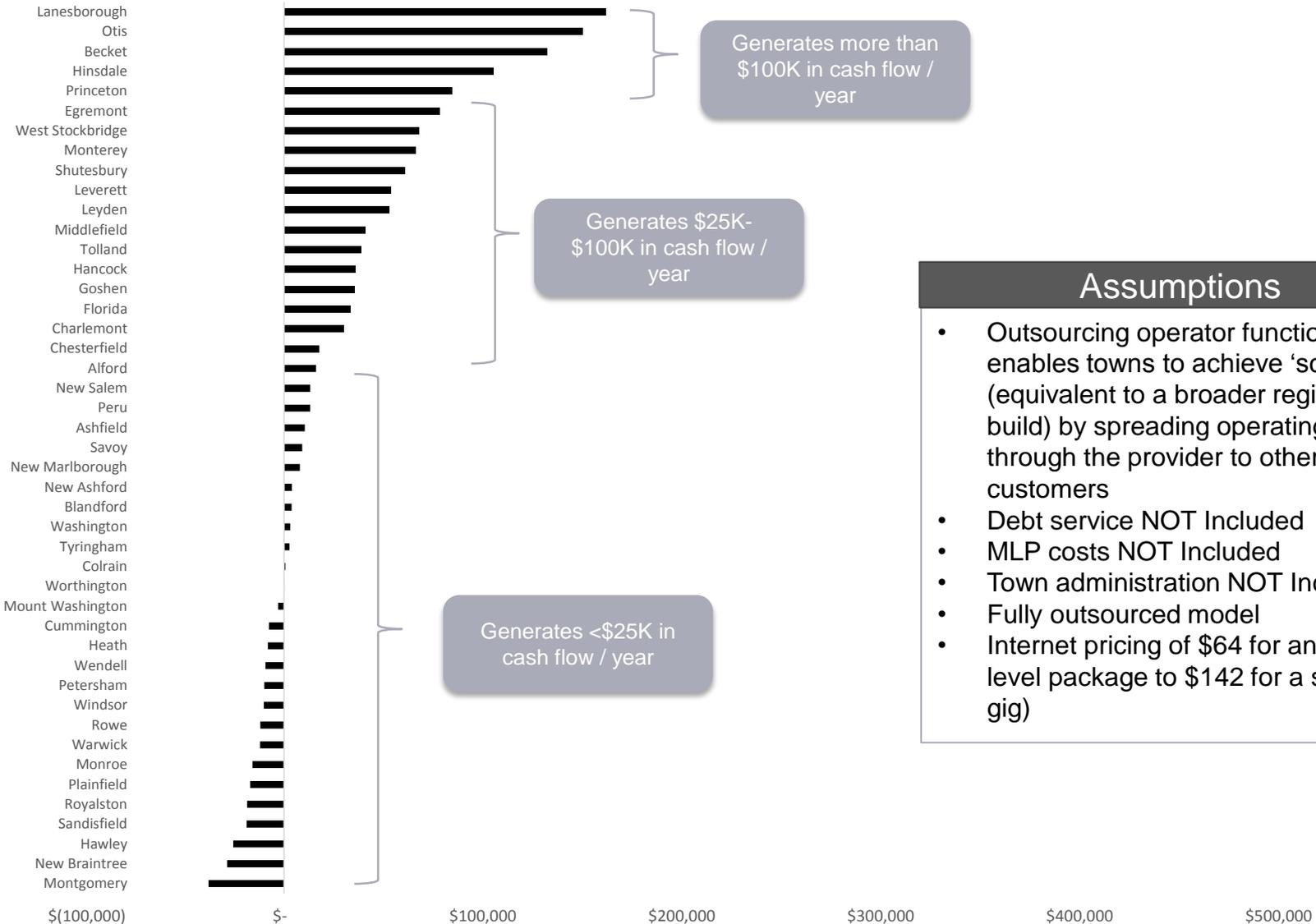
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## *Activities*

- ▶ Substantive effort with WiredWest to identify differences (and underlying reasons) between its operating model and Wipro's
- ▶ Additional modeling effort to identify groups of towns that could be made sustainable with a fiber to the home network and groups of towns that are unlikely to be sustainable
- ▶ Continued progress with both Matrix and Comcast on Partial-cable efforts

# Cash flow varies considerably by town

## 50% Penetration

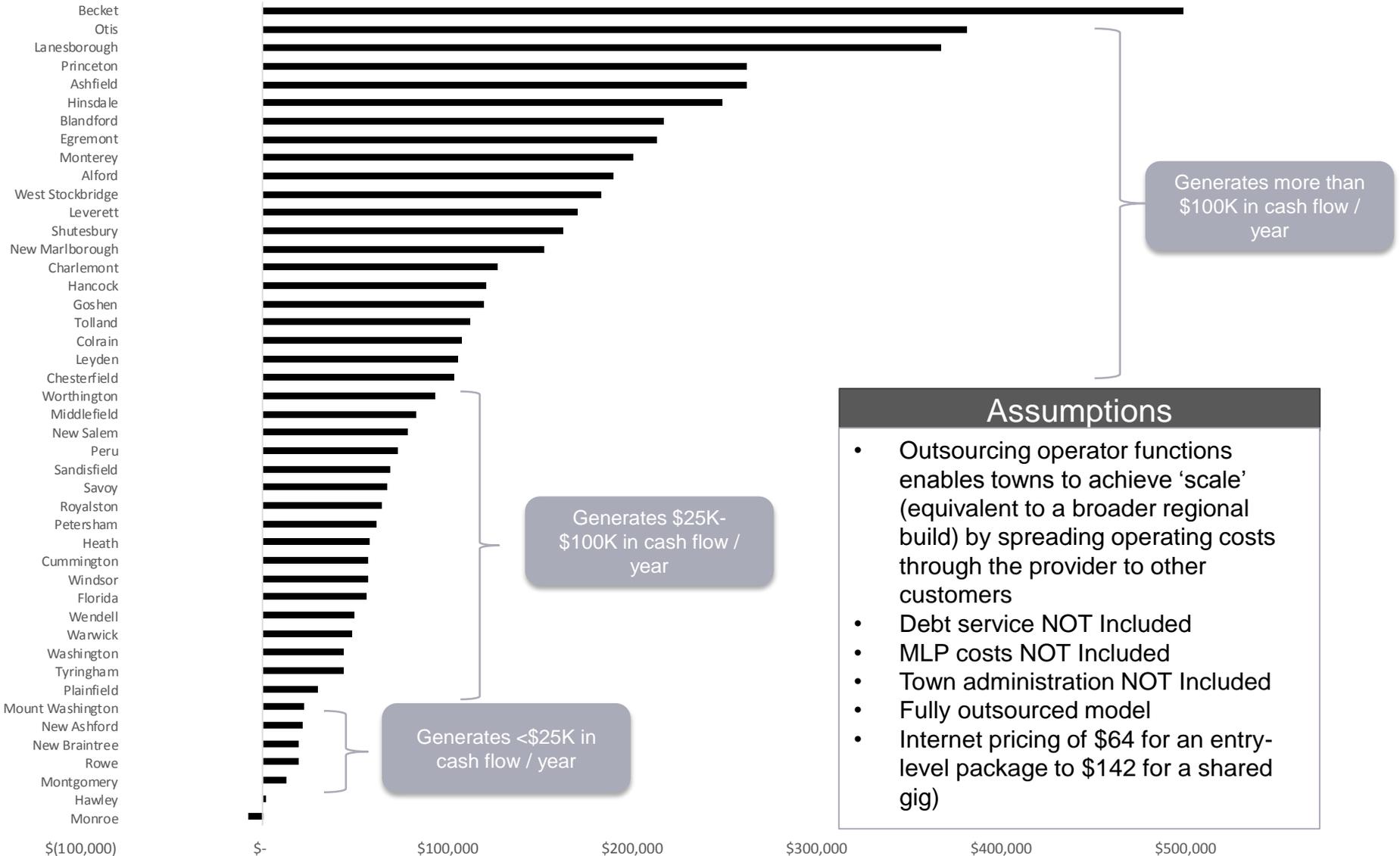


### Assumptions

- Outsourcing operator functions enables towns to achieve 'scale' (equivalent to a broader regional build) by spreading operating costs through the provider to other customers
- Debt service NOT Included
- MLP costs NOT Included
- Town administration NOT Included
- Fully outsourced model
- Internet pricing of \$64 for an entry-level package to \$142 for a shared gig)

# Even at 75% penetration (no-where near a certainty), not all towns are sustainable based on how the project is currently conceived

## 75% Penetration



Generates more than \$100K in cash flow / year

Generates \$25K-\$100K in cash flow / year

Generates <\$25K in cash flow / year

### Assumptions

- Outsourcing operator functions enables towns to achieve 'scale' (equivalent to a broader regional build) by spreading operating costs through the provider to other customers
- Debt service NOT Included
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- Town administration NOT Included
- Fully outsourced model
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# Several decisions guided the current analysis that could be reexamined

## Strategic Levers

|                     |   |   |
|---------------------|---|---|
| <b>Technology</b>   | While some towns have the density to support a fiber-to-the-home project, many may need to consider alternative (lower-cost) options                                  | <i>Is a minimum speed rather than a technology a better basis for evaluation?</i>                                 |
| <b>Coverage</b>     | Thresholds for coverage (such as driveway distance or distance from the rest of the network) can reduce costs, but would also leave some homeowners without coverage. | <i>Do all residents have to be offered the same option?<br/>Does everyone have to be given an option?</i>         |
| <b>Pricing</b>      | Pricing for standard broadband speeds in a sub-scale network may need to be in the \$70-\$100 range (depending on the town) to sustain the network                    | <i>What level of expense should be funded by subscribers versus by town tax-payers?</i>                           |
| <b>Outsourcing</b>  | Existing companies will almost certainly have a lower cost of operations (even after paying them a margin)  | <i>How can we best engage additional companies in the dialogue?</i>   |
| <b>Debt Service</b> | Debt service for a fiber build may need to be managed from general town funds rather than paid for by the operator  | <i>Which towns will continue to seek fiber solutions if they have to fund the debt service from the tax base?</i> |
| <b>MLP Costs</b>    | Town MLP costs should be minimal if general operating expenses are entirely paid for by the operator, but towns should still expect to pay out of general funds       | <i>Which MLP costs can be pushed to the operator versus funded by the town?</i>                                   |

# Most of these decisions are difficult due to compelling arguments for and against

## *For*

## *Against*

### Technology

Some towns may be able to obtain 60-100% coverage at 25mbps speeds without incurring debt

May be viewed as insufficient or 'unfair' relative to neighboring towns

### Coverage

Establishing distance thresholds (and/or making homeowners pay for their own drops and equipment) could over 20% of the construction costs

Some homeowners would be required to put in substantive amounts of money to get connected

### Pricing

Still lower priced than current Satellite options

Not seen as 'competitive' with neighboring town Cable company offers

### Outsourcing

Greater certainty in financials and risks

Limited potential upside for towns

### Debt Service

Not applicable

Substantive investment and tax burden taken by towns

### MLP Costs

Not applicable

Not applicable

# Many more questions require resolution

Illustrative / Not-Exhaustive

| Town-Desired Solutions Vary Widely   |   |  |
|--|---|--|
| <b><i>Go-it-alone Fiber</i></b>  | <b><i>Desiring Wireless Solution</i></b>  | <b><i>Uncertain</i></b>  |
| <p><i>What are the benefits of multiple towns negotiating with outsourced vendors collectively?</i></p> <p><i>Which towns can get moving first?</i></p> <p><i>How can MBI generate additional interest by private sector companies in Western Massachusetts?</i></p> <p><i>What legal, financial, and operational risks are towns taking on themselves?</i></p> <p><i>How do these decisions impact grants from the state?</i></p> | <p><i>What are the benefits of multiple towns negotiating with outsourced vendors collectively?</i></p> <p><i>Which wireless technologies offer the best value (combination of cost and service level)?</i></p> <p><i>How much ubiquity will towns lose if they pursue wireless?</i></p> <p><i>What are the options for homes that are 'left out'?</i></p> <p><i>How do these decisions impact grants from the state?</i></p> | <p><i>What are alternative options (financing, technology, education of stakeholders, state support) for towns that remain uncertain?</i></p> <p><i>How can towns uncertain about breaking even handle backstopping of losses?</i></p> |

## Technical, Financial and Legal Issues:

- Providing guidance and technical assistance to towns on financing options, &
- Engage private sector/industry to scan for options for technology, operations and ISPs.
- Launch feasibility studies for towns that want/need lower cost options (wireless, partial coverage)

## Operations and Sustainability:

- Ongoing discussions with WiredWest to resolve options going-forward;
- Evaluating town-specific project models for feasibility and operating sustainability; &
- Development of comprehensive consortium approach for all unserved towns.

# Axia Sales Report

January 2016

46% CAI Subscription (511 of 1108 CAIs)

Average Increase  
(Past 6 Months)

3.4 new CAI Subscriptions/Month

Notable Sales Data

- Axia has provisioned 33 AAPs since release of services
- Axia is working with MassIT to transition EOHHS circuits at existing CAI locations off of Verizon over to MB123, 3 of 25 have been cut over

Heavy Adopters

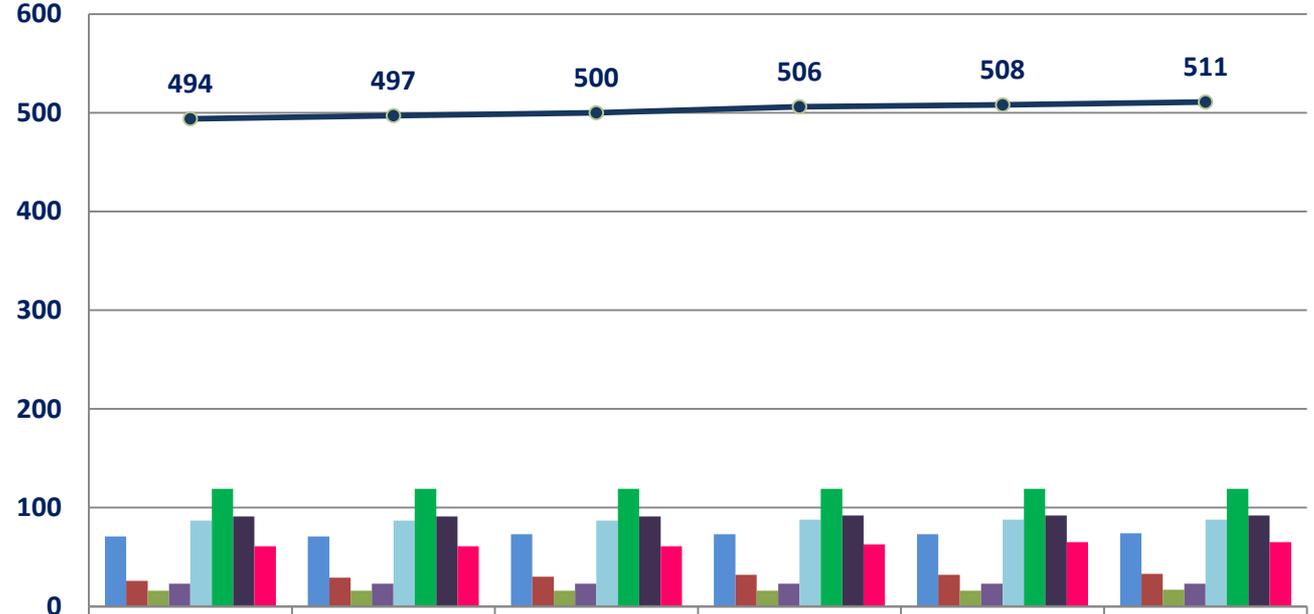
- Law Enforcement: 79% (CJIS in use, E911 Project Pending)
- Libraries: 79%
- Courts: 64%
- Schools: 58%

Incumbent Cable  
Provider Analysis

- Non-Cable Towns: 58% CAI Subscription
- Cable Towns: 42% CAI Subscription

# Axia Sales Report

## CAI Subscriptions by Category



| Category                          | August     | September  | October    | November   | December   | January    |
|-----------------------------------|------------|------------|------------|------------|------------|------------|
| Municipal                         | 71         | 71         | 73         | 73         | 73         | 74         |
| State Agency                      | 26         | 29         | 30         | 32         | 32         | 33         |
| Medical and Health Care Providers | 16         | 16         | 16         | 16         | 16         | 17         |
| Courts                            | 23         | 23         | 23         | 23         | 23         | 23         |
| Schools                           | 87         | 87         | 87         | 88         | 88         | 88         |
| Law Enforcement                   | 119        | 119        | 119        | 119        | 119        | 119        |
| Libraries                         | 91         | 91         | 91         | 92         | 92         | 92         |
| Other                             | 61         | 61         | 61         | 63         | 65         | 65         |
| <b>Total</b>                      | <b>494</b> | <b>497</b> | <b>500</b> | <b>506</b> | <b>508</b> | <b>511</b> |