



WiredWest

Regional Broadband Solution

January 28, 2017 JFK Middle School
Florence, MA

Introduction and Agenda

- ▶ Welcome and Introductions
- ▶ Purpose of today's meeting
 - ▶ Understand the WiredWest Solution
 - ▶ Understand your town's cost and responsibilities
 - ▶ Leave with information you need to make an informed decision
- ▶ Very Brief History
- ▶ The Plan - Details, Benefits, Risk
- ▶ Breakout Session - Your Town's Costs
- ▶ Questions and Answers

Keeping things running...

- ▶ QUESTIONS DURING? NOTE THE SLIDE NUMBER
- ▶ PARKING LOT
- ▶ FOCUS ON SOLUTION

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How we got here...

- ▶ 2009-2011 WiredWest forms and advocates to solve Massachusetts broadband crisis
 - ▶ Educates towns and helps towns form MLP (municipal light plants)
 - ▶ Lobbies the state legislature for funds
- ▶ 2014 state legislature authorizes \$50 million Last Mile grant to expand the “middle mile” network to service homes and businesses.
- ▶ 2014-2015 WiredWest visits all towns to prepare Select Boards, Finance and Broadband Committees to prepare and educate townspeople. The MBI endorses WiredWest Regional Plan and holds joint presentations.
- ▶ 2015 towns vote in record-breaking votes to raise tax bonds to supply 2/3 of build costs, many supporting WiredWest



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Continued....

- July 2015- State policy revised to require town ownership
- December 2015 - MBI reverses endorsement regional ownership
- January 2016- Three month “pause”
- February 2016- MBI Director resigns and Last Mile project reorganizes, new leadership appointed
- May 2016- State policy revised again to encourage private ownership

TOWNS HAVE 2 OPTIONS:

- A) Invest taxpayer dollars in building and owning your own network
- B) Give your portion of the state grant to private company

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The Build vs. Operations

BUILD*

- ▶ Managed by the MBI or managed by your town
- ▶ Paid for by your town (~70%) and the MBI (~30%) construction grant
- ▶ Covers all construction of your network including pole survey, make ready, design and engineering, construction of network and installation to the home

OPERATIONS

- ▶ Only takes effect when your network is built and homes hooked up
- ▶ Paid for by subscribers
- ▶ MBI not involved at all
- ▶ Covers ALL ongoing expenses of your network
- ▶ Pay for depreciation reserve AND debt service.

*Unknown how construction will be done and by whom, up to the MBI

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What does each town need to do to operate their own network?

- Pay annual pole rental fees to utilities
- Manage pole licenses and bonding fees
- Pay electricity for your hut/s, HVAC maintenance, etc.
- Bill subscribers and manage cash flow
- Get subscribers - marketing and advertising
- Contract with ISP (Internet Service Provider) to deliver services
- Contract with vendor to maintain fiber cables and electronics
- Pay at least \$28,800 per year to connect to Middle Mile
- Insure everything
- Maintain reserves for insurance deductibles

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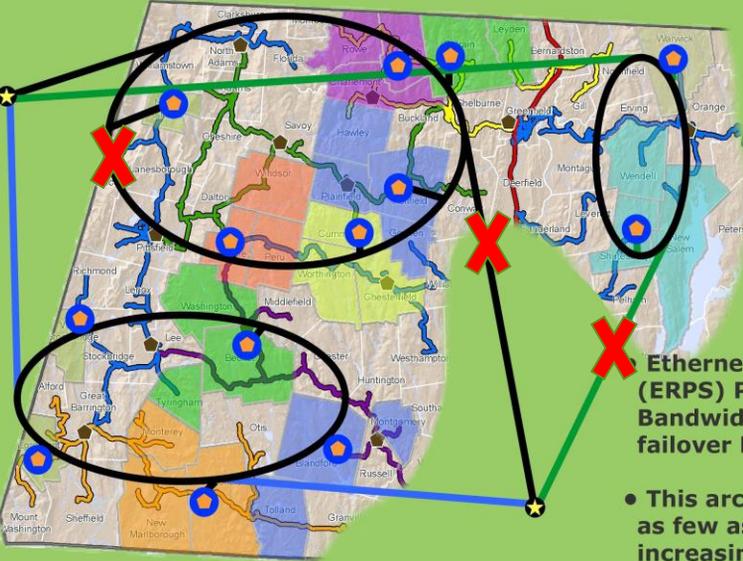
Current Member WiredWest Towns

27 Towns

Ashfield	Monterey
Becket	New Ashford
Blandford	New Marlborough
Buckland	New Salem
Charlemont	Peru
Chester	Plainfield
Chesterfield	Rowe
Cummington	Sandisfield
Goshen	Shutesbury
Heath	Tolland
Lanesborough	Washington
Leyden	Wendell
Middlefield	Windsor
	Worthington

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 **Ring Network Structure**



Ethernet Ring Protection Switching (ERPS) Provides Load-Sharing, Bandwidth-Sharing, and failover Resiliency.

- This architecture allows truncating to as few as two internet connections, increasing efficiency further.

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Who Owns What = Who pays for it

YOUR TOWN

- ▶ ALL of the infrastructure within your town borders
 - ▶ All fiber on the poles
 - ▶ Pole licenses
 - ▶ All electronics except ring connecting
 - ▶ The hut (each town will have at least one) and everything in it EXCEPT WW's connection equipment
 - ▶ Drops to the household
 - ▶ All house electronic equipment (Customer Premise Equipment)

WIRED WEST

- ▶ Some minor electronics, which connect each town to the "ring" network.

WiredWest Plan Options for Subscribers

STANDARD PLAN \$75

- ▶ 1Gb
- ▶ Exceeds FCC standards



2-5 person households who use internet for working from home, simultaneous device using, multiple people doing multiple streaming and high-use households

ECONOMY PLAN \$59

- ▶ 25 Mbps
- ▶ Meets FCC minimum for broadband



1-2 person households using basic internet, browsing, email and occasional video, movie and music downloading OR families who need a value option

PLUS PHONE

\$19



Full service national long distance, all inclusive, **KEEP** your phone number, voice mail, call waiting, call forwarding

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What do subscription fees cover for each town?

- Pay annual pole rental fees to utilities
- Manage pole licenses and bonding fees
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What about depreciation reserve and debt service?

Debt service:

- ▶ Paying back the what your town borrowed to build your network. Likely on tax roles.

Depreciation Reserve:

- ▶ **Annual** fixed budget item for infrastructure replacement
- ▶ Required by state law
- ▶ Each town must cover their own depreciation reserve
- ▶ Each town's depreciation reserve is different
- ▶ 3% of the total build cost minus non-recurring costs (ex. make ready costs) May petition DPU for different amount.
- ▶ Fiber will last 30+ years, electronics need to be replaced every 7 years.

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Sample Bill



Basic WW Service: \$59
Plus Phone*: \$19

Town Finance Fee: \$Town Choice

TOTAL: \$

*Plus state and federal mandated taxes.

Insurance, maintenance of inside and outside plant, pole licenses for all poles in your town and bonding fees, electricity, all other operational costs, payment to vendor for providing service, billing, customer support.

YOUR TOWN

Goes to your town treasurer for depreciation reserve.
Optional: Debt service

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What will it cost per month?

SERVICES	COST	ADDED TOWN FEE	TOTAL MONTHLY COST
Standard (1Gb*)	\$75	PLUS x	
Standard plus phone (\$19)	\$94		
Economy (25 Mbps)	\$59		
Economy plus phone (\$19)	\$78		

* Speeds are best effort, similar to other providers.
Business level service with dedicated bandwidth will be available for higher prices.

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How do I figure out my town's fee?

- ▶ Each town needs to decide if* and how much to charge for finance fee per subscriber
- ▶ Can include debt repayment, all or partial, if you choose
- ▶ Go very conservative!
 - ▶ If you overestimate the take rate, your town will have to make up the difference with free cash
 - ▶ If you underestimate, the excess can be used for other purposes (ie. Lower debt repayment) and then be adjusted the following year

*Note that some towns may choose NOT to have a town fee added at all if they want to pay for their entire depreciate reserve through taxes instead

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What's YOUR town fee?

1. Get together with members of your town
2. Use the Town Fee Worksheet document and colored spreadsheet. Simple calculation. How much money your town needs for depreciation reserve divided by # of subscribers.
3. Figure out a very conservative town fee and an optimistic town fee based on your town's data.

If you overestimate the take rate, your town will have to make up the difference with free cash (So start with 40% take rate)

If you underestimate, the excess can be used for other purposes (ie. Lower debt repayment) and then be adjusted the following year

4. Talk about including none, partial or all debt service in the town fee
5. Generate a list of questions

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What will it cost per month? Example

SERVICES	COST	ADDED TOWN FEE	TOTAL MONTHLY COST
Economy (25 Mbps)	\$59	PLUS \$11	\$70
Economy plus phone (\$19)	\$78		\$89
Standard (1Gb)	\$75		\$86
Standard plus phone (\$19)	\$94		\$105

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What about drops to the home and installation charges?

Installation = running fiber from curb to home and installing house box

- ▶ Part of the build process
- ▶ It is **up to your town** to decide which homes get connected and how to pay for it as part of build process.
 - ▶ EXAMPLE 1: All homes get a connection built to them regardless of driveway length.
 - ▶ EXAMPLE 2: Only homes with less than 300' aerial or approved conduit get connected for free or nominal fee, rest is up to homeowner
 - ▶ EXAMPLE 3: Each homeowner pays a substantial fee to get an installation done, \$500 - \$2000

WiredWest will charge a one-time \$99 activation fee to begin service.

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What about vacation/part time subscribers?

- ▶ Part-time residents can start and stop internet service at will at no cost**
- ▶ Must pay fee (minimum~\$10/mo) to keep your phone number while service is suspended (industry standard)

**Note that most phone and internet companies don't allow this at all or charge very high fees

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When will we actually get broadband?

If everyone is building their own network, how does the technology work together?

How does the MBI play into this?

What if the cooperative doesn't have enough money to operate?

What if the cooperative has more than enough money to operate?

Do we have to vote again at Town Meeting?

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How many years does a town have to commit to WiredWest?

How long are rates guaranteed from vendor?

Who controls the subscriber rates?

How many towns need to sign on to make this work?

What happens if a town gets hit with ice storm or other weather event and causes massive damage?

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Category	Wired West (Regional Cooperative Operated Solution) with a MBI Managed build
BUILD COSTS	
Total Build Cost	(get this from your MBI estimates)
MBI Contribution for construction	(get this from your MBI estimates)
MBI Contribution for professional	(get this from your MBI estimates)
Vendor Contribution	Not applicable
Town Contribution	(get this from your MBI estimates)
Total cost to town	Best case: Worst case:
To whom is the town contribution	To MBI
One-time installation fee	
TAX IMPACT	
Annual tax increase (For an average home valued)	Best case: Worst case:
CONTROL OF BUILD	
Control of build process (design, engineering, project)	MBI
Who does the actual build work?	Contracted vendors by MBI
How much input do we have over the build process?	Low, MBI will control and manage
How far does the fiber go? (house or curb)	Town choice
Townwide coverage	Town choice (but must reach 96% per MBI guidelines)
What kind of fiber network would Ownership and Ongoing Control	GPON (Gigabit Passive Optical Network)
Who manages	Town MLP and Wired West Board
Ownership of infrastructure	Town MLP
Subscriber Costs	
What would a subscriber receive?	High Speed Internet (25 Mbps base - 1Gbps depending on plan chosen) Nationwide long distance telephone and local calling services.
Monthly service fee internet only most basic plus phone	\$59 for 25Mbps internet only \$76 for 25 Mbps and phone PLUS town fee (suggest adding to rates above)
Monthly service fee 1GB internet and plus phone	\$75 for 1GB internet only \$34 for 1GB Mbps and phone PLUS town fee (suggest adding to rates above)
How long are rates guaranteed?	
Who controls the service fees?	Towns, via WiredWest Cooperative, subject to competitive bids for service

How much will it cost to build?

What's the tax impact?

Who is controlling and managing the build?

Who manages?

What are the costs to subscribers

Helpful items on your drive

MBI RFP Responses by Town and Provider*

* WiredWest towns in Black. Non WiredWest towns in Blue

Towns	Charter	Comcast	Crocker	Fiber Connect #1	Fiber Connect #2	Mid Hudson	Woodfield (WhipCity)
Ashfield							
Becket							
Blandford							
Charlemont							
Chatterfield							
Cummington							
Goshen							
Heath							
Lanesborough							
Leyden							
Middlefield							
Monterey							
New Ashford							
New Marlborough							
New Salem							
Paru							
Plainfield							
Rowe							
Sandfield							
Shutesbury							
Tolland							
Washington							
Wendell							
Windsor							
Worthington							
Ashford							
Egremont							
Hancock							
Montgomery							
Otis							
Princeton							
Tyringham							

	Requested Funding				MBI Amounts			
	Construction	Profession Services	Other	TOTAL	Construction	Profession Services	Town Contribution	Total MBI Est Cost
CHARTER:								
Egremont	460,000		303,276	963,276	660,000	410,000	1,870,000	2,940,000
Hancock	480,000		0	480,000	480,000	330,000	1,390,000	2,200,000
Monterey	680,000		613,150	1,293,150	680,000	460,000	1,960,000	3,100,000
New Salem	400,000		547,239	947,239	400,000	350,000	1,390,000	2,140,000
Princeton	910,000		0	910,000	910,000	640,000	2,850,000	4,400,000
Shutesbury	510,000		0	510,000	510,000	360,000	1,570,000	2,440,000
COMCAST:								
Goshen	450,000	320,000	690,000	1,460,000	450,000	320,000	1,380,000	2,150,000
Montgomery	300,000	250,000	475,000	1,025,000	300,000	250,000	950,000	1,500,000
Shutesbury	510,000	360,000	785,000	1,655,000	510,000	360,000	1,570,000	2,440,000
FIBER CONNECT/HG&E:								
Alford	270,000		468,000	738,000	270,000	210,000	830,000	1,310,000
Becket	1,290,000		3,132,000	4,422,000	1,290,000	860,000	3,750,000	5,900,000
New Marlborough	920,000		2,384,000	3,304,000	920,000	790,000	3,020,000	4,730,000
Otis	1,080,000		1,680,000	2,760,000	1,080,000	690,000	3,100,000	4,870,000
Tolland	430,000		964,000	1,394,000	430,000	400,000	1,820,000	2,650,000
Tyringham	260,000		536,000	796,000	260,000	220,000	900,000	1,380,000
Plus install of 999.00, et al								
Egremont								
Monterey								
CROCKER/BJ&S:								
Worthington	590,000		889,000	1,479,000	590,000	480,000	1,790,000	2,860,000
1,828,800 2,418,800								
Premise Count 635								
70 Percent 445								
2,000.00 x 445 = 889,000								
96 Percent 610								

What resources are on the drive?

Town Fee Worksheet and Project Summary

This is a copy of the town fee worksheet used during the breakout session of the workshop. The Project Summary is a great place to start to see a summary page of the solution.

Financials Spreadsheet

This is the full spreadsheet showing assumptions and cost basis. See the first tab for a town-by-town calculator to help estimate your town's costs. Note, there is a lot of data here. Please contact the WiredWest team if you want a full walk-through.

FAQ

A summary of the most frequently asked questions about the solution.

Presentation Slides Jan 28

A PDF copy of the entire slide deck from this presentation. If you'd like someone to come to your town and present it, please let us know.

MLP Startup FAQ

A very detailed Questions & Answer sheet regarding MLP structure, startup and operational considerations.

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Questions?

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Next Steps

- ▶ Research with your Finance Committee, Broadband Committee and Select Board the various solutions available to you
- ▶ Compare the solutions and assess the risk and benefit of each
- ▶ Review your thumb drive materials
- ▶ Find problems and concerns in WiredWest numbers
- ▶ Contact info@wiredwest.net (or ask your town's delegate) if you want follow-up. Glad to go over any and all information
- ▶ Commit to signing on with WiredWest as your network operator
- ▶ Email Ed Donnelly at Donnelly@masstech.org and have a town representative speak at the MBI meeting on the 16th of Feb.

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How state can support regional solution!

- ▶ Remove requirement for each town to prove full sustainability on their own
- ▶ Release professional services grants to each town
- ▶ Clarify that each town does not need to connect to the middle mile
- ▶ Cooperation to build each town's network to regional specifications
- ▶ BUILD IT!

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