

8 September 2017

Comments on the September 6<sup>th</sup> MBI Meeting:

MBI has now declared that 96% customer coverage is no longer a pre-requisite for a town broadband system. They will invite small providers to propose solutions but they stated that Middlefield will not have ownership / control and will probably have to provide a long term revenue guarantee to the monopoly service provider.

As evidenced in the mentioned Crocker proposal, it appears that MBI would also accept less than the 25/3 Mbps minimum speed requirement previously in effect.

Comcast expressed an interest in serving Middlefield. MBI stated the cost was too high (?) but given the new coverage guidelines this provider should be re-visited. Middlefield could also contribute beyond the available State funds if warranted.

I have previously provided evidence that a stand-alone town owned and operated system is not financially sustainable. The technology choice does not change the outcome. MBI concurred with this view in comments at the Wednesday meeting.

My perspective is that the most favorable solution would be to be included in a Comcast or Charter network where they would finance the buildout in exchange for exclusivity. The smaller operators will want Middlefield and the State to provide the million and a half construction dollars in some form and they will still demand exclusivity.

That would seem to leave us two choices lacking any large commercial interest:

1. The town would borrow a million dollars to finance a WG&E constructed 100% fiber system. Each household would pay on average 3 or 4 hundred dollars in additional taxes each year for 15 to 20 years (total average cost = \$5k). The town would belong to the WiredWest (WW) MLP consortium to take advantage of the reduced costs and the no operational oversight required from the town.
2. The town would borrow a lesser amount of money – perhaps \$200k for 5 years. The town would have WG&E build as much fiber as practical and the remaining homes would be serviced via wireless. WW and WG&E would run the fiber system leaving the wireless technical operations for the town. Perhaps 60-70% of the town would have fiber connectivity with the option to expand fiber operations at a future date.

WW recently published these guidelines for hybrid system membership:

*“Towns with Hybrid Fiber - Wireless networks may be participating members of WiredWest provided that:*

- *They provide the required number of strands of fiber from their equipment hut to any neighboring member towns.*

- *WiredWest will serve only FTTP customers and will not serve premises with wireless connections. WiredWest will not maintain wireless equipment.*
- *Wireless access points used to serve premises that are connected to a fiber backhaul will be considered commercial customers of WiredWest with pricing and terms to be negotiated.*
- *For purposes of meeting the 50% minimum take rate to receive shared profits, the take rate shall be calculated as the number of FTTP WiredWest subscribers divided by the total number of premises passed by fiber.”*

A pure wireless system would not seem to qualify for WW membership.

WW has stated that they would prefer each member town to be a link in a circular chain of member towns to optimize reliability and connection bandwidth charges. It appears Middlefield is an island with the only possible WW connection through Becket. Chester is served by Comcast and Peru by Charter. Worthington has not decided but WW is not included in their program summary issued in May.

[Worthington Link](#)

WW states they will treat a wireless interface as a commercial account. I would suggest there are other agreements and arrangements that would better serve both WW and the town.

Attached below is a January 2016 preliminary straw man hybrid design for discussion only. The design provided for a second outlet to Worthington (via River Road) which might not now be needed. Obviously the design effort would be a multi-dimensional exercise with political considerations. Your RF Consultant has been previously paid for his hybrid designs and a critique of this one. I would be happy to contribute in any way.

Howard

Appendix:

-----Original Message-----

From: Howard Knickerbocker <howardk758@aol.com>

To: selectboard <selectboard@middlefieldma.net>

Sent: Tue, Jan 19, 2016 8:50 pm

Subject: Hybrid System Map

Red = Fiber

Blue = Wireless

Green = Towers

Orange = Existing MBI Fiber

The towers at West Hill Rd and on Skyline North are probably not needed.  
Seven towers in design.

