

Advance Questions for the WiredWest Presentation
Scheduled for June 12, 2017, in Plainfield

In preparation for the WiredWest presentation scheduled for June 12, 2017, in the Plainfield Town Hall, the Plainfield Broadband team began a list of questions at their May 22, 2017, meeting. That list has been expanded with some answers provided in part by members of the WiredWest Executive Committee and in part by members of the Plainfield Broadband team.

1. Why should Plainfield engage WiredWest as our network manager instead of contracting directly with Westfield Gas and Electric (WG+E), from which WiredWest has already voted to procure network services? Alternatively, would it be more advantageous for Plainfield to join with a small group of contiguous towns rather than the broader regional WiredWest consortium?
 - a. **Trust and experience:** WiredWest is not just some random third party. It is a regional cooperative owned by and for its member towns. Dealing with WiredWest means dealing with ourselves and our neighbors. WiredWest draws on talented volunteers from the whole region and therefore has more collective expertise than any individual town or even cluster of towns. To those of us who have been working as members of the WiredWest Executive Committee, it is obvious that we have accomplished much more as a regional team than any of us could have done working only with individuals from our hometown.
 - b. **Buffer against unwanted change:** In the future if there was dissatisfaction with WG+E or if another entity proposed a better pricing structure, WiredWest could negotiate a better deal with that entity on behalf of all the towns in the cooperative. This obviates the need for every town to commit its individual resources to investigating other options and negotiating new service contracts.
 - c. **Consolidation of resources:** In addition to the services provided by WG+E (network operator, ISP, etc.), WiredWest will also manage bandwidth transport (backhaul), which means sharing bandwidth cost at bulk rates and having network redundancy to provide resilience. WiredWest will also manage and pay for each town's infrastructure-related costs such as pole licenses, insurance, and repairs. By pooling these costs and consolidating

deductibles, we reduce the risk for an individual town having to pay for a major repair and for some of the financial consequences of an unexpectedly low take rate. In addition, WiredWest negotiates terms and contracts on behalf of all the towns, thus consolidating that effort so that each town doesn't have to do it separately. Moreover, by negotiating on behalf of thousands of subscribers rather than only hundreds, WiredWest can obtain better pricing and services than an individual town is likely to be able to get.

- d. **Personnel:** The current executive committee has some very qualified people on it, each bringing different expertise to the table. I'm sure if you ask any of us if we could have done as well on our own, the answer will be that we have done better working as a team than any of us could have done with only people from our towns.
- e. **What does WG+E think about it?** WiredWest has been working closely with WG+E, negotiating services and discussing network design and interoperability across towns. WiredWest has contracted with WG+E for the services portion of managing the networks, including call center, billing, Internet and telephone services, and repairs and maintenance. WG+E has indicated a number of times that it will be better for the towns, and better for WG+E, if each town works with WiredWest as a single regional entity. It would, among other things, obviate the need for WG+E to have to work out individual billing arrangements and network and service contracts with different towns.
- f. **Cost sharing:** Participation in WiredWest will "level" operating costs across member towns. For some (generally towns with small populations and low population density), this will result in lower costs for certain services.
- g. **And if things go south?** While WG+E appears to be an optimal ISP provider, competition in the future might open opportunities for cost savings and/or service improvements with another provider (witness Leverett's switching providers after their first three-year contract period).

Few towns individually have the resources to assess such opportunities, and more importantly, negotiating services in bulk will attract providers who might not be interested in just one town, thereby providing cost savings through competitive offers.

2. What are the benefits of WiredWest managing bandwidth transport as opposed to WG+E?
 - a. WiredWest represents its member towns' interests exclusively. WG+E, in contrast, is governed by a board of directors elected in Westfield and is therefore required to be concerned primarily with the welfare of Westfield and WG+E. By having an advocate in WiredWest, our towns will be collectively negotiating bulk rates for shared bandwidth and optimal connectivity to minimize backhaul costs. If all towns are working cooperatively, then the cost of backhaul is shared. If each town negotiates backhaul separately with WG+E, such savings will likely be unavailable.
3. Given that the attachment licenses are between the owner of the attachment (the town) and the owners of the poles (utilities), how does WiredWest foresee managing licensing? Similarly, given that each town owns its own assets (fiber, electronics), how does WiredWest foresee insuring those assets?
 - a. As owners of the individual networks, each town will have to purchase its own insurance and will own their own pole attachment licenses. However, WiredWest will pay for the insurance and the pole licenses on behalf of member towns out of subscription income. Towns will not have to pay these bills.
4. How is WiredWest's pooling of costs different from how WG+E would charge for repairs and maintenance?
 - a. The cost of repairs and maintenance is on a time and materials basis. Repairs are paid for from insurance with a \$10,000 deductible per incident. If a town contracts directly with WG+E for repairs and maintains its own individual insurance policy, it will have to (1) maintain a sufficient cash reserve for its own deductibles and (2) negotiate individually with WG+E for hourly repair rates. WiredWest, in contrast, will maintain a cash reserve necessary to cover anticipated repairs and

insurance deductibles. Thus costs for insurance and repairs will be spread out over all the WiredWest towns, with no one town having to cover large repair expenses on its own if it happens to have a number of incidents in a given year.

5. Does WiredWest foresee relying on volunteers for negotiating these contracts and managing all of this paperwork or will it hire professional staff?
 - a. Most of the planning and negotiation is handled by dedicated volunteers. WiredWest also employs legal counsel to help with contract negotiations and with any regulatory filings that may be required. WiredWest also pays an accounting service to enter invoices on warrants that are signed by the Executive Committee and paid by the accountant. Consolidating such efforts and expenses represents a saving in time, expertise, and money for individual towns.
6. Will WiredWest hire professional staff to execute its network management responsibilities? If not, what provisions are in place to ensure continuity as volunteer staff changes over time?
 - a. Most services, including billing, network operations, and customer service, will be handled by contractors. The WiredWest Executive Committee will meet monthly to review Key Performance Indicator (KPI) reports from the vendor, to address any problems that may arise, and to sign warrants. The Executive Committee will report quarterly to the WiredWest Board of Directors to review performance of service contractors. There will be turnover, as there would be if towns were to manage their own MLPs. Because WiredWest represents twenty-four towns, it is unlikely that there would ever be a massive turnover, so continuity will be maintained. Indeed, the continuity (and breadth) of WiredWest's leadership should be substantially better than for most individual town MLPs.
7. What tasks and responsibilities would a town going it alone have to take on (town staff and/or broadband team) if it contracted directly with WG+E rather than with WiredWest?
 - a. A town's MLP would have to create an operational model to figure out how to cover all necessary costs and services. It would have to negotiate terms and prices with WG+E and/or other contractors, create a financial

model to determine pricing necessary to cover costs, handle cash management and reserves, arrange bandwidth/backhaul, and oversee performance of contractors.

- b. For example, take a look at [The Leverett Municipal Broadband Model](#) to get an idea of what's involved. Leverett has chosen OTT Communications to do most of the services that WiredWest is hiring WG+E to do, but not all. They are also contracting with Holyoke Gas and Electric (HGE) for some services and purchasing bandwidth from the MassBroadband123. They have a separate MLP charge to handle infrastructure-related costs and have in-house skilled volunteers to negotiate contracts, oversee contractors' performance, manage assets, and handle cash management/reserves.
 - c. WiredWest is negotiating a detailed contract that covers all of the necessary aspects of network management with specific Key Performance Indicators for such things as customer service availability, acceptable answer time, and line fault repair response time. The details are too numerous to list here.
8. What will be the financial relationship between a participating MLP and WiredWest? Can an MLP bill its subscribers for charges above and beyond what WiredWest is billing, such as assessments for debt service, town employee compensation for broadband-related services, and an infrastructure depreciation reserve?
 - a. WiredWest will only be charging towns dues until the network is operational. WiredWest will invoice subscribers directly. The rates are the same for subscribers in all towns and are periodically reviewed by the Board of Directors. The initial prices are posted on the website. They have been set conservatively. If rates ramp up quickly, the board may be able to lower rates in subsequent years.
 - b. Towns that wish to add a surcharge for their subscribers to cover such things as debt service and depreciation reserves, which are not paid by WiredWest, may do so. Such surcharges will pass through WiredWest and be returned directly to the town.
 - c. At the end of each year, the Board of Directors will determine the amount of excess revenue—that is, income beyond what was spent on operational costs and set aside to maintain cash reserves—to be

returned to the towns. The amount returned to a town will be in proportion to the revenue the customers in the town have generated. A town must maintain a 50% take rate to be eligible for such “profit-sharing.”

9. How will subscribers be billed?

- a. WiredWest will bill all customers one month in advance, so there will be no collection fees or bad debts. The first month's payment will include a \$99 activation fee, which will fund WiredWest's cash reserves. Ten thousand customers would yield a cash reserve of \$1 million. This cash reserve will be used to pay for the first month's backhaul costs and throughout the year to cover deductibles for maintenance and repairs. Ongoing operating expenses will be paid from the monthly fees collected from subscribers less the wholesale fee per subscriber that WG+E will deduct. The only startup costs that we foresee for WiredWest is the first month's backhaul costs.
- b. Online sign-up and bill paying will be available. Some customers, yes even broadband subscribers, will want paper bills, for at least the near future. Payment by credit card will incur a surcharge of 3% of the total bill; there will be no charge for direct debit and payment by paper checks.

10. Does WiredWest have a written business plan with financial projections for startup phase and ongoing operational phases for its approach “A2” to supporting its member towns?

- a. Each town will pay for its own pole licenses, pole bonds, and insurance during construction. Once the town's network is operational and customers are being served, WiredWest will take over paying these bills from revenue. More details are available at <http://wiredwest.net/2016/06/12/wiredwest-plan-a2/>.
- b. The business model is described here:
<http://wiredwest.net/project-overview/wiredwest-regional-network-management-plan/>
- c. The financial model used to establish prices and show take rate sensitivity is here:
<http://wiredwest.net/advice-for-towns/town-data-pricing-worksheet/>

11. Does WiredWest have a financial pro forma balance sheet and description of assumptions for WiredWest plan A2 startup phase and operational phase?

- a. No financial pro forma balance sheet has been created. It is unknown how many towns will be participating in WiredWest and what the take rate and product mix will be, giving us an unmanageably large number of scenarios to run. What we have done is to prepare a spreadsheet model that allows anyone to play "what if" with the variables:
<http://wiredwest.net/advice-for-towns/town-data-pricing-worksheet/>
- b. WiredWest will charge each customer a retail rate for services. WG+E will collect the retail payments from its customers and deduct their fixed wholesale cost per customer. The wholesale cost that WG+E collects covers the following services. For the full list of what each category includes, please see Appendix A at the end of this document.

Program Management

Customer Service

Sales and Marketing

Web Site Management

Billing will include

Tech Support

Email Features

Data Security

Network Security

Network Monitoring

Legal and Regulatory

VoIP Services

VoIP Features

- c. On the Income Expense tab of the spreadsheet you will see the operating costs that are not covered by WG+E and will be paid by WiredWest out of the balance of the retail fees that WG+E will remit to WiredWest on a monthly basis. These include insurance, pole bonding and licensing, maintenance, backhaul, and miscellaneous expenses such as electricity for the huts, legal and accounting services, which for Plainfield, acting on its own and not part of the WiredWest network, would cost \$83,154 per year. If all of Plainfield's subscribers signed up for the \$59 economy service and no phone, then 235 subscribers would be required, i.e., a 75% take rate, to generate enough revenue to pay the operating costs. Or

conversely, Plainfield on its own at a 50% take rate would need to charge about \$75/mo to meet expenses.

- d. However, because WiredWest negotiated rates based on at least 5,000 subscribers and is consolidating backhaul and other costs, even if only the fourteen towns that have thus far shown the most commitment to WiredWest were to join together, WiredWest would need only a 50% take rate to cover costs.
- e. The last column on the Income Expense tab is Plainfield's estimated portion of the excess revenue that is generated from subscriber fees. This obviously varies by the overall and individual town take rates and product mix. So if the take rate is 50% in all towns and all of these customers took only the \$59 economy service and no phone service then the excess revenue for which Plainfield could be eligible would be \$12,667. If you change the parameters to a 70% take rate with a product mix of half of these subscribers taking the \$59 service and half taking the \$75 service along with a telephone take rate of 50% of subscribers, then the excess revenue that could be distributed to Plainfield would be \$62,187.
- f. On the Depr Debt tab you see the excess revenue in the first light blue columns; the next, light brown, column shows the depreciation reserves necessary to replace the electronics every 10 years. For Plainfield that is estimated at \$9,175 per year, or \$3 per customer per month at a 70% take rate.
- g. The purple columns deal with the debt service. For Plainfield, if the cost of construction equals the estimated cost, then the debt service is \$78,933 per year for principal and interest. If 100% of debt service is added to customers' bills, that would lead to a surcharge of \$25 per month at a 70% take rate. However, if the debt service is paid for entirely by taxpayers, then the average household in Plainfield would pay \$16 per month in additional taxes.
- h. Given the potential for Plainfield to receive \$60,000 per year in profit-sharing, it is recommended that the depreciation reserves and debt service not be added to the customers' bills. Keeping the customers' bills low will increase the take rate which will increase the revenue

which will increase Plainfield's share of the profit sharing which may cover most if not all of the debt service and depreciation reserves.

12. What happens if the minimum take rates to cover costs are not achieved by Plainfield (or other member towns)?

- a. We set prices conservatively to cover operating costs even with modest take rates during startup, but there is some risk. The risk will be pooled, so individual towns will not need to meet a minimum take rate to have their expenses paid, but will need to reach 50% in order to get a portion of the profit. If overall, subscription revenue does not meet expenses, then we will have to raise prices or find ways to cut costs. If the worst-case scenario arises and cash reserves are depleted, we will have to assess towns for a proportional contribution based on the number of premises. We believe that the risk of the network as a whole not achieving a breakeven take rate is very low, given that we already have 6500 customers who have preregistered with a \$49 down payment on their first month's bill.
- b. But note clearly that all of the same concerns are equally valid for an individual town "going it alone." Pooling risk helps to minimize the worst-case situation for any individual town.

13. What are the *specific* financial obligations of each town to WiredWest?

- a. Each town is responsible for annual dues, currently set at \$1,000. This may be eliminated once we have operating revenue. The town should not have to pay WiredWest any additional amounts except in the unlikely event of a revenue shortfall, as noted above. The town is responsible for its own debt service and depreciation reserve.

14. Has WiredWest developed the operating agreement it expects its member towns to sign?

- a. WiredWest has prepared a draft memorandum of understanding between the towns and WiredWest. It is currently awaiting approval by the WiredWest Board of Directors.

15. How will WiredWest provide advice to its member towns during the preconstruction and construction phase of each town's network?
- a. WiredWest will work with WG+E on recommendations for equipment specifications, numbers of strands of fiber to the border of adjacent towns for ring structure, etc., in order to optimize efficiency, interoperability, and cost-effectiveness. Some decisions may be mandatory in order to ensure compatibility, but we will be as flexible as possible. Such decisions will be made public. Towns have varying degrees of in-house expertise, and where WiredWest coordination may be lacking, towns may enquire as to what other towns are doing. Providing a WiredWest "top level" interface with professional design engineers will ensure optimal regionwide compatibility (e.g., ring structures for bandwidth pooling and fallback service) long into the future. WiredWest has a strong track record of facilitating such information sharing. WiredWests will continue to share information via its website, email, and meetings with delegates.
16. Will WiredWest retain current legal counsel for foreseeable future? Is this a resource that member towns will be able to access?
- a. WiredWest will retain legal counsel. We have an expert on MLP law, and we will probably continue to need such expertise from time to time. We use such counsel for matters of common interest to WiredWest and member towns. Town-specific legal questions should be addressed by town counsel or may be separately billed to the town by our legal counsel.
17. What, if any, service or support growth opportunities can WiredWest predict over time? How will WiredWest address changes to the business model over time?
- a. WiredWest is governed by delegates from its member towns, who will meet regularly to address any need for such changes. We are currently considering the possibility of adding broadcast TV as an optional service. We may add security and home automation services in the future. Such services might be difficult to secure on a town-by-town basis. Arranging such services independent of the ISP provider ensures that in the case of a change of ISP provider, optimal continuity can be maintained (in other

words, if all such offerings come through the ISP provider, than changing that provider down the road could become much more complicated).

18. What specific risk analysis has WiredWest undertaken for its new plan A2?

- a. The most significant risk for WiredWest is the same as for a single town operating its own network: Will the take rate be sufficient to cover all of the operating costs? To minimize this risk, WiredWest undertook a pre-signup marketing campaign that resulted in 6500 customers paying \$49 in advance for service. This represents a 40% take rate in most towns.
- b. In setting prices, WiredWest looked at price versus take rate sensitivity and sought to accomplish two main goals. The first was to ensure that the price for economy service plus telephone was comparable to Verizon's charge for phone and DSL Internet, thus making a switch from Verizon to WiredWest attractive: much better service for the same price or less. The second goal was to ensure that a conservative take rate at the economy pricing would pay the bills. The financial modeling shows that with a 50% take rate with every subscriber taking the economy Internet service and no phone, all of the bills get paid with some money left over for distribution back to the towns.
- c. We have considered catastrophic events such as a major storm or a car crashing into a pole. By spreading risk over the region, the risk is reduced for each participating town. The Massachusetts Interlocal Insurance Association (MIIA) is offering insurance at reasonable rates with \$10K deductibles. Pooling repair costs might allow raising that deductible and therefore lowering the overall expense of catastrophic insurance. We will maintain cash reserves sufficient to weather (so to speak) a number of repair incidents. Further research is ongoing to determine expected repair frequency. We have reviewed the repair history of the 1200-mile MB123 network and LeverettNet and have budgeted accordingly.

19. If equipment owned by the town malfunctions or is damaged, be it fiber or electronics, does the town or WiredWest pay for repair or replacement?

- a. WiredWest will cover all costs of repair and maintenance. WiredWest will cover the deductible for all insured repairs.

- b. Each town will contribute a small number of spare optical line terminals (OLTs) and optical network terminals (ONTs). These are sold under warranty, so the spares will be used to replace failed equipment that will be sent back to the manufacturer for replacement. If all towns use the same equipment, the number of spares that each town will need to contribute will be significantly reduced. This equipment typically fails within the first 30 days of use if it is going to fail, after which the mean time to failure is greater than 200,000 hours, or about 22 years.
- c. What WiredWest will not cover is costs for replacement of equipment that becomes obsolete (principally the electronics in the town's huts and the electronics installed at each subscriber premise. Those costs will be borne by individual towns, and it for that purpose that it is recommended that each town establish a depreciation reserve. We have not addressed a reserve for replacement of fiber, since it is expected to have a useful life of at least fifty years, and budgeting for its replacement can be deferred until later, for example after the debt for construction has been paid off.

APPENDIX A

The wholesale cost that WG+E collects covers the following services:

Program Management will include:

- Oversight of program implementation
- Direct access to senior executive 24X7X365

Customer Service will include:

- Separate 800 number to Network Operator Call Center,
- Customer Service personnel shall recognize customers based on phone number caller id where possible and then verify customer.
- Customer Service personnel shall be trained to handle most issues using a knowledge base approach before escalation to Technical Support.
- Physical Payment Center 8:30am to 5 pm, Monday – Friday, and
- Call Center Account Agents available 8:30am to 5pm, Monday - Friday, answering as WW brand
- Off hours answering service capable of escalating technical service problems to Network Support
- Automated Customer satisfaction callback survey
- Customer Service personnel will be capable of provision service to customer.

Sales and Marketing will include:

- Custom branded correspondence,
- Print materials will be developed and available for distribution by the towns
- Direct Marketing
 - Constant Contact
 - Direct mail
 - Door-to-door
 - Events
 - Multilevel
 - Other
- Local newspaper ads and articles
- Bi-monthly email literature Item, and quarterly sales literature
- Customer relationship management tools
- Inbound sales calls through the customer service call center

- Ongoing periodic educational events

Web Site will include:

- Custom branded web site to capture customer applications and interest
- Built on Network Operator framework
- Capable of provisioning customer network services
- Capable of allowing the customer to turn their service on or off
- Custom URL owned by WW
- Reporting, Customer Relationship Management Item

Billing will include:

- Billing Template setup
- Customer surcharges by WW Member Town
- Custom branding as WW
- Rates management
- Physical bill presentment
- Online bill presentment (optional at a cost)
- Collections
- Reporting
- Tax payments, as required

Tech Support will include:

- Tier 1 Help Desk 24 X 7 -Phone Support
- Tier 2 Help Desk 7 am -6 PM, Monday -Saturday
- Tier 3 Network Support 24 X 7
- Tier 1 Field Support -7am -6pm, Monday -Saturday
- CPE Trouble Call Support 7am -10 pm, Monday -Saturday
- Field Trouble Call Support 7am -10 pm, Monday -Saturday

Email will include:

- 5 email address per subscriber
- Custom domain owned by WW
- IMAP

Data Security will include:

- Compliance with M.G.L Chapter 93H and CMR 201 Standards of Personal Information of Residents of the Commonwealth
- Backup of all customer data

- o Dailies for two weeks
- o Weeklies for two months
- o Monthlies for two years
- o Yearlies for duration of this agreement

Network Security will include:

- 1 license of TrendMicro
- Backup of all network data
 - o Dailies for two weeks
 - o Weeklies for two months
 - o Monthlies for two years
 - o Yearlies for duration of this agreement
- Protection from Denial of Service attacks

Network Monitoring will include:

- Load monitoring and reporting
- Load balancing
- High use customer monitoring for compliance of acceptable use policies

Legal and Regulatory will include:

- FCC Form 477 filing
- FCC Form 499A filing
- Digital Content Millennium Act (DCMA) administration
- Communications Assistance for Law Enforcement Act (CALEA) management

VoIP services will include:

- Customer Service as described in above
- Legal and regulatory: Universal Service Fund fees, taxes, and fee calculation

VoIP Features will include:

- Free U.S. calling
- Caller-ID and call-waiting
- One-touch voicemail access
- Online call log
- Fax Mode
- Optional Bluetooth Adapter

- The utmost voice clarity
- Caller-ID blocking
- Remote Voicemail Retrieval
- Online Preferences
- Live Customer Support
- 911 Service Call Hold
- Enhance 911
- Online Voicemail Playback
- Area Code Selection
- Encrypted calls
- 911 Email and Text Alerts
- Call Return
- Online phonebook
- 7/10-Digit Dialing
- Optional WiFi Adapter
- Free calling to Canada
- Caller Name
- Anonymous call blocking
- Voicemail alerts
- Private Device
- Instant Second Line™
- Voicemail monitoring
- Call forwarding
- Voicemail-to-email forwarding (audio)
- Private Voicemail
- Three-way conferencing
- Do not disturb
- Online Voicemail Playback
- Multi-Ring
- Send to voicemail
- Personal Number
- Backup Number
- Community blacklist
- Free Mobile Minutes
- Voicemail-to text (\$4.99/month)
- Google Voice Extensions

Construction and repair personnel as required

- Construction equipment, materials
- Traffic control
- Testing
- Splicing
- Repair stock
- Supervision