



Community Networks Offer Faster, Cheaper Broadband in NC

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North Carolina aims to be a hotbed for innovation and technology, but a controversial bill to prevent communities from building their own broadband networks could derail those goals. This new analysis shows that community owned networks are faster and cheaper than incumbent cable and telephone networks in North Carolina.

Past broadband discussions in the General Assembly focused on a bill to prevent communities from building their own networks. Yet communities are the only ones building citywide next-generation fiber-to-the-home

networks in the state. The best connections in the state are in the towns of Salisbury and Wilson because both built community fiber networks that offer much faster connections to residents and businesses at more affordable prices.

The most recent data shows that community owned networks offer much faster connections at lower prices than private sector operators. Figure 1 compares similar tiers of service from AT&T, Time Warner Cable, Salisbury's Fibrant network, and Wilson's Greenlight service.

Broadband Tiers by Provider and Cost

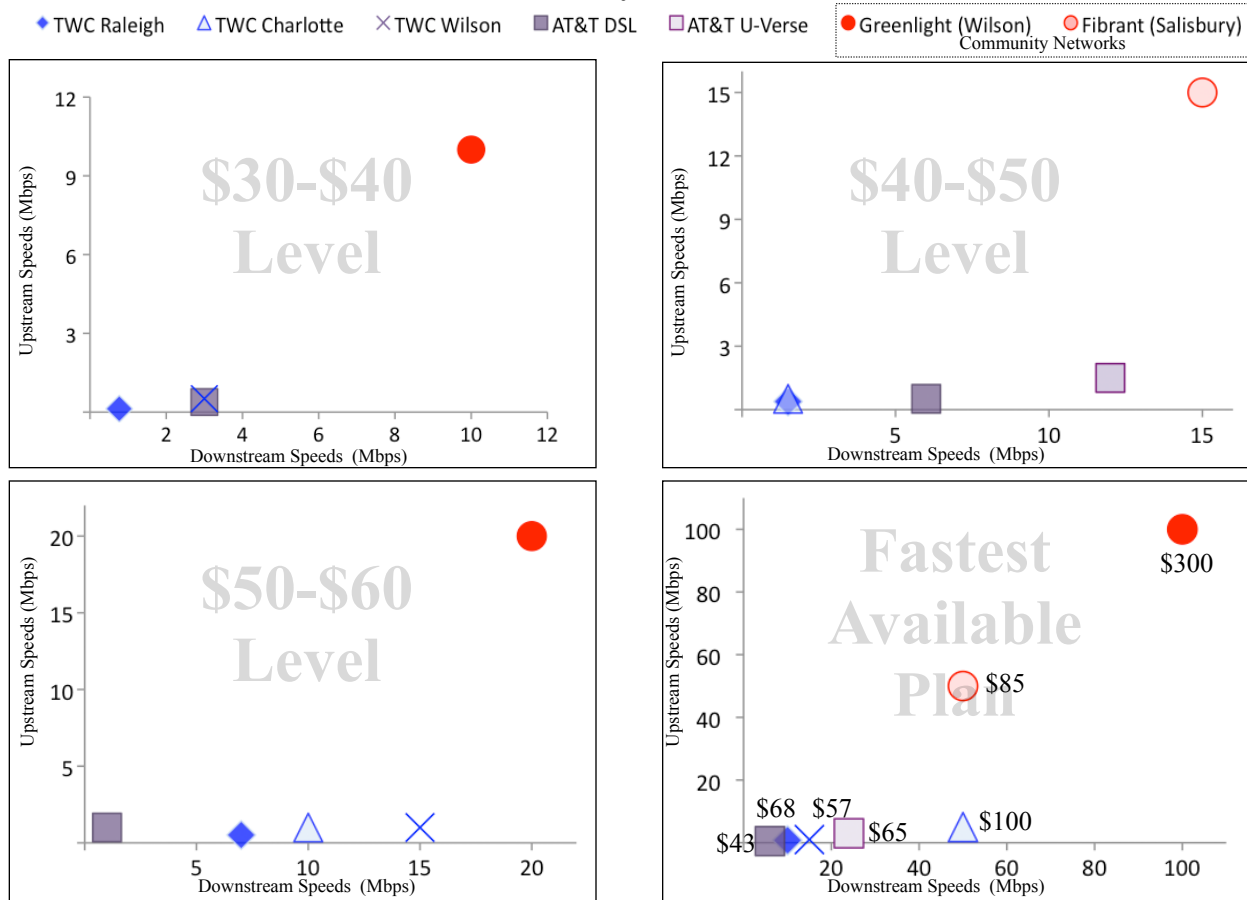


Figure 1
Pricing data from published, non-promotional rates. Most tiers are broadband only, however Greenlight's \$30-\$40 offering is based on double or triple-play tier as they have only one broadband-only offering. Greenlight adds \$5 if not bundling; with that addition, it fits in this price point.

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The Future of Broadband in NC

Incumbent providers frequently claim the broadband market is quite robust and competitive. Yet, nearly all broadband subscribers can only choose between relatively similar cable and DSL options (AT&T's U-Verse is more similar to DSL than next-generation fiber-to-the-home). Those hoping for wireless technologies to introduce competition will likely be disappointed because wireless options tend to be slower and less reliable. Wireless has done little to change what is fundamentally a broadband duopoly that offers little incentive for incumbents to lower prices or invest in next-generation networks.

Around the country, the communities with the best access to broadband have made public investments, as Chattanooga, Tennessee, did in building the nation's fastest citywide network. In North Carolina, the fastest citywide networks are in Wilson and Salisbury -- where each took the digital future in their own hands. Salisbury's Fibrant has just launched and Wilson's Greenlight is ahead of subscriber projections.

Despite the success of these investments, the General Assembly has considered legislation to restrict the authority of municipalities to build these networks. Each year, the legislation is pushed by incumbent providers like Time Warner Cable in an effort to limit the only real threat of competition they face. If these cable and phone companies are successful in limiting competition, communities will have little capacity to compete in the digital economy.

Broadband for Businesses

Internet speed and cost is already a major driver of business location. But the common asymmetrical connection, where upstream speeds (as when sending a file to a client) are much slower than downstream speeds, no longer meets business' needs. Cable and telephone companies, limited by their copper technology, cannot offer modern symmetrical connections. Community fiber networks, however, tend to offer symmetrical speeds, where both the upstream and downstream are very fast.

Modern businesses need higher upstream capacity to take full advantage of cloud-based services. Businesses increasingly use video chats to decrease expensive business travel; exchange very large files with clients and vendors; and depend on off-site backups to safeguard essential data. Slow connections sap productivity and efficiency, allowing competitors a significant advantage. And as employees increasingly work from home, they also need much faster upstream and downstream connections to maximize productivity.

Another business priority is reliability. While we have no way of measuring and comparing reliability among

A note about comparing broadband across multiple providers: Advertised speeds can vary greatly based on the technology. For instance, DSL speeds quickly decrease the further a subscriber is from the DSLAM. Cable networks aggregate hundreds of subscribers on the same connection and often cannot deliver promised speeds during periods of high demand.

For the purposes of this report, we compare advertised claims despite the reality that full fiber networks are considerably more likely to consistently deliver those speeds than wireless, cable, and DSL alternatives. For a greater explanation, see our [Municipal Broadband: Demystifying Wireless and Fiber-Optic Options](#) report, which explains the key points.

service providers in this brief, full fiber-optic networks have proven much more reliable than cable and DSL networks. Thus, one would strongly expect Fibrant and Greenlight to be superior in that metric as well.

Community networks have a structural advantage over incumbent networks in the matter of increasing economic development. While national providers care little whether a business settles in town A or town B, locally owned networks work with potential businesses to ensure their needs are met.

In 2011, the General Assembly is likely to again consider a bill pushed by cable and telephone company lobbyists to gut local authority to build the infrastructure they need. Before preempting any local authority, the state should consider whether the state's future is better served by last-generation networks run by out-of-state companies or next-generation broadband that is accountable to the citizens.

MI-Connection

Perhaps the most discussed community network in the General Assembly's broadband discussions was MI-Connection, a network much maligned by Senator Hoyle. MI-Connection is a network now publicly owned and operated. Unlike the Salisbury and Wilson networks, MI-Connection was not a fresh build but a renovation of an extremely deteriorated network previously owned by Adelphia. While MI-Connection is indeed running in the red currently, that is a result of the investment needed to rehab it, not any reflection on the community's ability to run it. If Time Warner Cable were running it, they would either be running in the red as well, or (more likely) they would not have invested as much (offering slower and less reliable services to the community instead).

Figure 2 compares a commonly subscribed tier of service from each provider as well as the maximum offering each service provider offers. Salisbury and Wilson both offer the fastest downstream speeds as well as, by far, the fastest upstream speeds.

Even if the Triangle and Charlotte were to have universal access to AT&T U-Verse and TWC's DOCSIS3 upgrades, they would still have a competitive disadvantage compared to Salisbury and Wilson.

Notice that TWC's best value is in Wilson, where they have increased speeds and lowered prices due to the competition from the community fiber network.

Every \$1 spent on these Greenlight or Fibrant tiers buys 0.33/0.33 Mbps, compared to 0.08/0.01 from AT&T's DSL service and 0.27/0.03 from AT&T's "next generation" U-Verse. \$1 spent on TWC's Raleigh connection yields 0.12/0.01 Mbps; \$1 for Charlotte's TWC returns 0.17/0.02 Mbps.

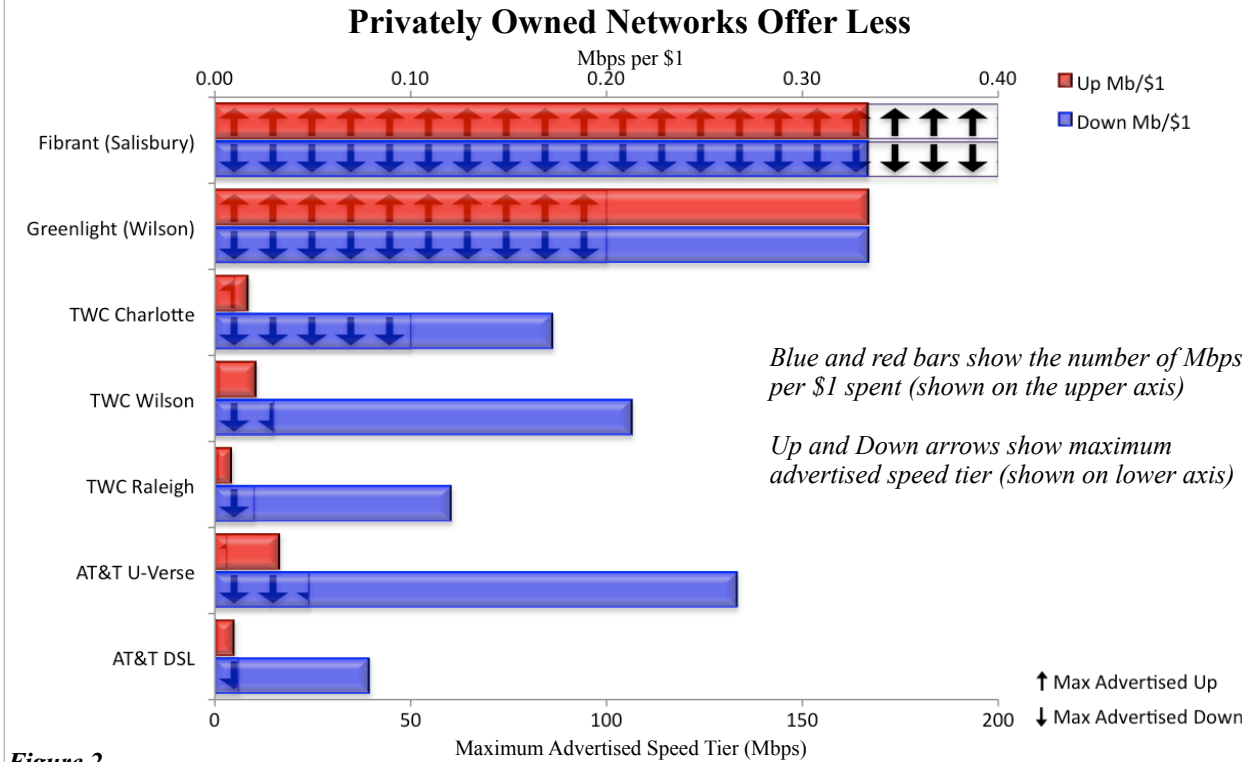


Figure 2 Comparing broadband from different providers can be challenging. Here we show a normalized value a commonly used tier of each broadband provider as well as the fastest available speeds. Compared plans include AT&T DSL 3/.384; AT&T U-Verse 12/1.5; TWC Raleigh 7/.512; TWC Wilson 10/1; TWC Charlotte 10/1; Greenlight's 20/20; and Salisbury's 15/15. Prices are based on published, non-promotional rates. Salisbury has announced a 200 Mbps tier, but not pricing.

Community Networks: The Secret Sauce

North Carolina is not alone in the vast amounts spent by incumbent providers to convince state governments to outlaw community networks or create other barriers preventing communities from investing in this essential infrastructure. When confronted with the facts that community broadband networks consistently offer faster speeds at lower prices, some question how it is possible and wonder if communities are somehow cheating or using tools not available to the private sector providers.

As we explain in our comprehensive report, [Breaking the Broadband Monopoly: How Communities Are Building the Networks They Need](#), communities

actually face many more hurdles in building these networks than do massive national carriers who, as incumbents, have tremendous advantages over any competing network (public or private).

Because communities treat the networks as infrastructure rather than a profit-maximizing investment, they frequently use longer-term financing and price at a level meant to create local economic development rather than profits for absentee shareholders.

Communities invest in state-of-the-art fiber-to-the-home networks rather than the outdated technology most often used by incumbents who are unwilling or unable to make the necessary investments to keep pace with community needs. These all fiber-optic networks

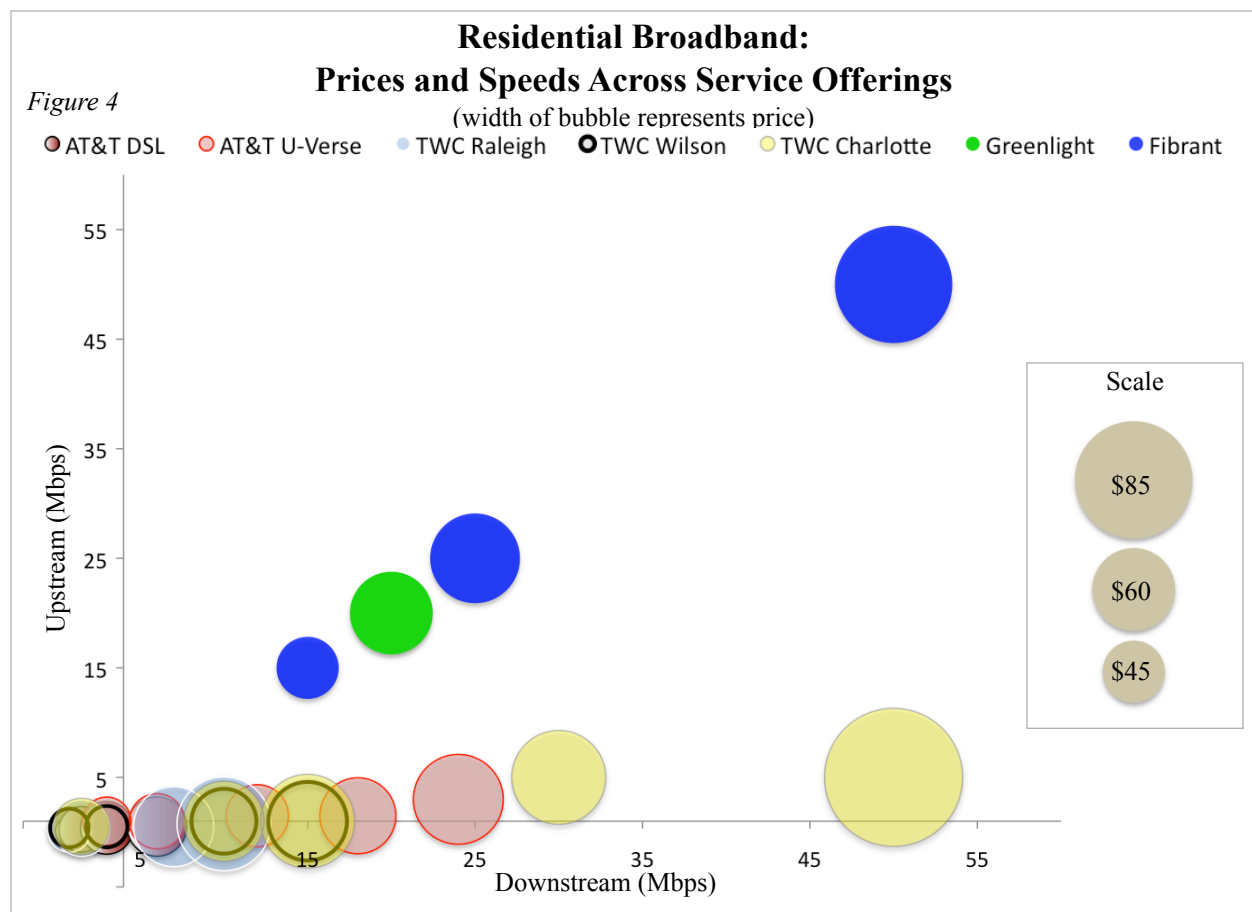
have much lower operating costs, allowing them to offer faster speeds at affordable prices.

Consider two trucking companies carrying the same load across the country, obeying the same laws and regulations. If one can only use dirt roads while the other uses Interstates, the operating costs of the dirt road truckers will be much higher. And when you start adding more and more trucks to the roads, the Interstate can accommodate the the additional traffic.

Comparing the tiers of residential service from Wilson or Salisbury against the providers in the Raleigh area (figure 4), shows that the communities have invested in a network that offers far faster speeds for less money than any of the private providers (Greenlight offers more

packages than depicted as only unbundled options are displayed). Whether communities in North Carolina are competing against other states or internationally for jobs and quality of life, they are smart to consider investing in a community fiber network.

This chart actually uses the new FCC definition for “basic broadband,” which is 4 Mbps downstream and 1 Mbps upstream. The packages that are plotted below and to the left of the origin are no longer technically broadband. Notice how many of the plans offered by private providers barely qualify as broadband. In fact, as neither AT&T nor Time Warner Cable offer upstreams of at least 1Mbps in Raleigh, their services do not meet the new FCC definition for broadband.



Since 1974, the Institute for Local Self-Reliance (ILSR) has worked with citizen groups, governments, and private businesses to extract the maximum value from local resources.

A program of ILSR, the New Rules Project helps policymakers to design rules as if community matters.

For more Information, visit MuniNetworks.org where we offer a variety of reports and daily coverage of community networks.

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