

Case Studies in Funding Municipal Broadband

Introduction

Today's global economy dictates that communities of all sizes have robust broadband networks. Communities that fall behind in broadband deployments risk marginalization. This requirement has energized communities across the United States and around the world to become increasingly creative at devising ways to fund the construction and operation of broadband networks that enable them to keep pace in the dynamic global economy.

Many communities, citizens, and leaders are taking matters into their own hands to ensure adequate broadband development. It is not an insignificant task, and sustainable funding is necessary. This requirement has led to creative mechanisms for achievement. Some communities band together to pool their efforts, resources, and funds to get from whiteboard to deployment. Others go it alone. Many find partners, both financially and operationally, to achieve their broadband vision.

Communication, creativity, and the ability to compromise are keys to the successful design, funding, construction, and operation required to bring broadband to underserved municipalities. Fortunately, over the past 10 years, many municipalities have shown the way. This paper will examine some of the funding options that have been tried and proven. It will highlight the pros and cons of their choices as well as their willingness to adapt when necessary.

Funding Options

Funding to build new networks is available in the form of state and federal grants, bond initiatives, TIFs, taxes, and loans. Often, a mix of some or all of the above is used. Municipalities also are increasingly entering into public/private partnerships in which funding risks and responsibilities are shared to varying degrees among the members of each partnership.

Public/private partnerships come in three general forms and varying degrees of risk, benefits, and control of the networks they ultimately create¹:

Private investment with public facilitation. Private companies pay for the network, while municipalities assist with their deployment by offering the use of assets such as light poles and other government-owned infrastructure and/or by helping to market new services and ensure healthy uptake once a network is deployed.

Private execution with public funding. Municipalities raise and invest the funds needed to build the network and hire private companies to operate and manage them.

Shared investment and risk. Municipalities and private partners share the capital, operating, and maintenance costs of a new network.

Case Studies

Cooperative Creativity

Minnesota cooperative [RS Fiber](http://www.rsfiber.coop/) (<http://www.rsfiber.coop/>) consists of more than 15 townships and cities that came together to provide fiber-based high-speed networking to households and farms in South Central Minnesota. The co-op pressed through a number of challenges and explored and executed a variety of funding options for years before finally beginning to build phase 1 of its \$45 million, high-speed broadband network, which ultimately will connect via fiber 6,000 households, farms, and businesses across a 700-square-mile area. The success of RS Fiber's model can be replicated all over the nation, according to a report on the effort by the Institute for Local Self-Reliance and Next Century Cities².

To attract the necessary funding, most of the coop's 10 cities bonded a total of \$8.67 million. Most of the bonds sold were 20-year general obligation, taxable tax abatement bonds at 4.5 percent interest. The cities then loaned the bonding proceeds, which equaled more than half of the project's \$15-million phase 1 costs, to the cooperative. That loan was made subordinate to additional loans, which meant that local governments would be repaid last if the network failed to meet its financial targets. This, in turn, enabled the co-op to attract additional funding from local banks (see sidebar below). In addition to these loans, RS Fiber obtained a grant and new market tax credits. The \$30 million for phase 2 will be raised similarly, but with the townships doing the bonding and loaning, according to the report³.

RS Fiber also partnered with Hiawatha Broadband Communications to operate and manage the network. To begin reinvesting earnings from early subscribers back into the project as quickly as possible, RS Fiber chose to deploy its network incrementally. The co-op first built a ring of wireless radios placed on existing water towers and grain elevators to provide 25 Mbps broadband services to the initial households and businesses in the cities. Each household will be connected to much higher bandwidth connections via fiber to the home (FTTH) by the end of 2017, according to the report.

Phase 2 will extend fiber to the farm throughout the co-op's member townships. After selling enough bonds to make a loan of \$4.9 million to the co-op, additional funds may come from economic development loan programs at USDA.

A key lesson learned from RS Fiber's financing was that the community could use its local government capacity to issue bonds to provide seed funding to the co-op. Because the loan from the local governments to the co-op is subordinate to other investors, local banks and other entities had very little risk for their investments, which in turn allowed the co-op to raise the rest of the capital needed to get the project started⁴.

Other People's Money

According to the ILSR report, several local investors and banks, including ProGrowth Bank, The First National Bank of Fairfax, CornerStone Bank, and MidCountry Bank, provided \$3.75 million in senior secured construction loans for phase 1. The First National Bank of Fairfax made a construction loan to the RS Fiber Cooperative of up to \$500,000.

Rural Electric Economic Development, Inc. (REED) also provided \$1.5 million in term loan financing to RS Fiber. REED is a South Dakota-based non-profit organization whose geographic reach includes Minnesota rural electric cooperatives.

The Renville-Sibley Electric Cooperative also applied to the U.S. Department of Agriculture for two loans totaling \$1.3 million as part of the Rural Electric Development and Grant Loan Program. The local banks, REED, and the Renville-Sibley Electric Cooperative are RS Fiber's secured lenders⁵.

Variation on Private Investment & Public Execution

[Macquarie Capital](http://www.macquarie.com/us/corporate) (<http://www.macquarie.com/us/corporate>) and its partner municipalities have pioneered their own funding model in the United States. Macquarie provides financing, construction, and operations of new high-speed broadband networks for municipalities⁶. However, services are delivered by multiple ISPs to stimulate competition. Municipalities pay for the turnkey solutions by adding a fee onto all of their local property owners' utility bills. The ISPs also pay Macquarie from what is expected to be an increasing stream of revenues. As earnings are realized, Macquarie shares some of the ISPs' revenues with the municipalities, according to a report by the Coalition for Local Choice⁷.

A variation on Macquarie's approach, [SiFi Networks](http://sifinetworks.com/) (<http://sifinetworks.com/>) also builds, owns, and operates broadband networks for municipalities⁸. Its municipality partners make lease payments on the network, but only residents and businesses that wish to subscribe and use the service pay for it, according to SiFi's website. In addition, one or more ISPs provide services via the open access network and make minimum payment guarantees to the municipality in return for the opportunity to compete. The amount of the payments is negotiated based on the municipalities' costs, lowering their risk⁹.

Shared Investment & Risk

Most municipalities want broadband networks to encourage citizens to remain in the community (and attract new ones) and to stimulate economic development. Networks that are built under shared risk and investment models also can be used by municipalities to enhance education and connect municipal buildings and infrastructure. They also can be used to facilitate the use of Smart City and Internet of Things apps for the community.

Westminster, Maryland, located just outside Washington, D.C., was an underserved municipality that worked for more than 10 years to bring broadband to the community. The municipality got a break in 2010, when the state of Maryland received a grant from the federal government to deploy a regional fiber network called the Inter-County Broadband Network (ICBN), which included Westminster¹⁰.

To expand the backbone network to residents, the city decided to build, own, and maintain dark fiber and find partners to light the fiber and provide services to end users. The city issued an RFP for partners and selected Ting Internet, which committed to wholesaling service to multiple ISPs, which in turn would serve customers.

Westminster issued bonds to pay for the network infrastructure. Ting leases the fiber according to a tier 2 plan. One monthly fee is based on the number of premises passed, and the second is based on the number of subscribers. According to the Coalition for Internet Choice, any quarter that Ting's payments are not enough to enable the city to meet its debt service, Ting pays the city 50 percent of the shortfall. Alternatively, if Ting's fees exceed quarterly debt service requirements, the company is reimbursed an equivalent amount.

A variation on the Westminster model, the city of Santa Cruz, California, and long-time local ISP Cruzio entered into a shared risk/investment agreement. The city built, owns, and maintains a fiber network while Cruzio migrates its legacy DSL customers onto the city's network and actively pursues additional customers to buy services on the network. Having a locally based and owned partner was important to the city of Santa Cruz. Cruzio benefitted from being able to keep its existing customers as the need for more speed increased.

Seeding for Speed

City officials in Sandy, Oregon understood the need for speed early on. The town of 10,000 people took the bull by the horns in 2001 when its local telco was unable to provide a DSL connection to city hall. The city formed its own Internet utility and began offering DSL to residents and businesses over the telco's infrastructure initially, but ultimately built the SandyNet Wi-Fi network which offered service beyond city limits by 2003¹¹.

By 2008, Sandy officials saw the need for fiber, and in 2010 the city began developing a plan to build a FTTH network and leverage the strong demand for fiber from its existing customers. After seeking a public-private partnership, which fell through during negotiations with the potential partner, the city decided to finance the network itself.

The Sandy city council issued \$7.5 million in revenue bonds in 2014 to pay for construction. The bonds are repaid by revenue generated by the network. Extensive financial modeling determined that SandyNet would need a 35 percent take rate to pay off the bonds. Before finishing the network, SandyNet achieved a 60 percent take rate.

The network, which was built to serve people inside the city limits, was finished in the fall of 2015. It may be extended in the future. Meanwhile, SandyNet is migrating customers from the old Wi-Fi network onto the new Gigabit FTTH network and retiring some of its legacy assets in the process¹².

Municipality Anchor Tenant + Extra Capacity

The City of Ammon, Idaho, initially built a fiber network to connect city utilities and schools. The core network was paid for by the city's water department¹³. Having built extra capacity into the network, the city recently began offering fiber connections to residents and businesses that would like them in its first fiber commercial district last year. Those who opt in can pay a \$3,000 installation fee up front or amortize their payment in the form of a home-tied bond. Others can opt to pay for installation over 20 years. Those installations are funded in the interim with city reserves that are reimbursed by the homeowner. Installation pricing falls as more residents opt in¹⁴.

Customers pay their service provider once their network connection has been installed. They choose a service provider from a marketplace consisting of several companies, including a wireless provider that uses the fiber network for backhaul. A screen-based customer interface ensures healthy competition by allowing customers to instantly change service providers. The network is operating in the black and spurring economic growth in Ammon¹⁵.

Private investment

Seeing the need for high-speed broadband service in underserved and unserved areas, as well as the promise of recurring revenues for years to come, private investors are looking for municipalities that want turnkey solutions in exchange for a guaranteed number of subscribers/revenues.

For example, in July 2016, [Redzone Wireless, LLC](https://www.redzonewireless.com) (<https://www.redzonewireless.com>) of Rockland, Maine, committed \$1 million in funding to qualifying rural municipalities in the state that are looking to for high-speed broadband service in their communities. The company's "Fast for 5" program¹⁶ offers a 100 percent funded, designed, constructed, and managed 5Gx wireless broadband network to municipalities in selected areas of the state in exchange for a 5-year minimum broadband service commitment – an estimated \$7,500 per month minimum for 150 households. The municipality/community is the single payer, but each household is a separate account supported by Redzone and its proprietary OSS¹⁷. Services start at \$39 per month for unlimited data to residents, while 100/100 Mbps is available to businesses for \$99 per month.

Redzone developed the program to increase the efficiency of, and complement, Maine's ConnectME Authority Broadband Grant program, as well as other federal and state programs supporting rural broadband deployment. Therefore, communities that apply for and receive public grant funding also may qualify for to participate¹⁸.

"While Redzone has been primarily focused on building fixed wireless broadband networks across Maine through private investments, we have received dozens of requests for financial assistance in expanding high-speed internet access locally from rural Maine communities over the last 12 months," said Michael Forcillo, Redzone vice president. "For many, this new \$1M public/private funding program model represents a unique approach to addressing this long-term economic development priority¹⁹."

Redzone announced in January 2017 that its infrastructure was ready to serve 50,000 households in 10 rural and suburban Maine markets.

Conclusion

When it comes to financing municipal broadband networks, where there is a will, there is a way. That is because there is really no other way for most of the nation's underserved cities, towns, townships, and counties to get the service they need. Most ask and most are roundly refused before they go it on their own.

To date, 400 municipalities have taken on the job of ensuring that their citizens and businesses have access to high-speed broadband²⁰. That number is growing fast, and as more municipalities show that construction and financing can be done in any number of creative and proven ways, more community broadband projects are sure to follow.

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Notes:



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