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From

UNDERSTANDING THE DEBATE OVER GOVERNMENT-OWNED BROADBAND NETWORKS:

Context, Lessons Learned, and a Way
Forward for Policy Makers

Cedar Falls Case Study

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Cedar Falls, Iowa

The municipal broadband network in Cedar Falls, Iowa, is one of the oldest in the country. First deployed in the mid-1990s, this GON evolved from a traditional cable broadband system, built atop a hybrid fiber/coaxial infrastructure, to one that is transitioning to all fiber-optic.

Though it has survived for several decades, the Cedar Falls model may be difficult for other localities to replicate. In its push to modernize and join the ranks of other “gig cities,” Cedar Falls assumed a significant amount of debt with limited evidence that consumers wanted ultra-fast Internet connections. As a result, the system has experienced some financial volatility, which has led to a credit downgrade. It remains to be seen whether the benefits of this network will justify the significant costs associated with this municipality’s ambitious expansion plans.

Background

Cedar Falls Utilities (CFU) began to explore the feasibility of building a municipal communications network in the early 1990s.¹ After two years of study, the Cedar Falls City Council established a Municipal Communications Utility and transferred authority to the CFU Board of Trustees.² The project began in earnest after the issue was put before voters in 1994.³ Seventy-one percent voted in favor of deploying a GON that would be managed and controlled by the CFU Board of Trustees.⁴ Voters also approved a \$3 million bond issuance to finance the project.⁵

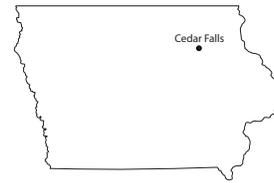
At first, the network offered only cable service,⁶ but by 1997, the utility began to offer Internet service via CyberNet, a 10 Mbps citywide Ethernet network.⁷ At that point, the network was composed of hybrid fiber/coaxial (HFC).⁸ In 2010, CFU began to replace the coaxial portion of its network with fiber and started to extend the fiber directly to homes and businesses.⁹ This upgrade eventually allowed CFU to offer 1 Gbps speeds to customers.¹⁰

Cost and Financing

Deployment of the initial HFC network was funded by a \$3 million bond issued in 1995 (it matured in 2008).¹¹ The upgrade to fiber and expansion of the network were slated to cost \$17 million.¹² In 2009, Cedar Falls began to borrow funding for these purposes by issuing a general obligation bond for \$2,320,000.¹³ The bond matures in 2024 and has a rising interest rate that begins at .075 percent and increases throughout the bond’s life to 3.80 percent in the final year.¹⁴

Cedar Falls can repay this general obligation bond through any mechanism, including its taxing powers.¹⁵ In 2010, Cedar Falls assumed additional debt to further fund the project when it borrowed \$13,130,000 using communications utility revenue capital loan notes,¹⁶ which carry an interest rate of three percent and mature in 2024.¹⁷ This debt was secured by a first lien on revenue from the communications

Cedar Falls, Iowa At-A-Glance



City Population: 39,993 (2012)

Year of Network Launch: Mid-1990s

Current Status: Partially Built

Number of subscribers: 17,000

Revenues: \$14.3 million

Operating Expenses: \$13.2 million

Note: Additional information on the Cedar Falls network is contained in Table 1 and in Appendix I.

utility.¹⁸ The GON also benefited from loans from the electric utility, totaling over \$2 million by the end of 2011,¹⁹ and grants from the federal government, totaling \$877,433, in support of network expansion to previously unserved areas.²⁰ As of the end of 2012, the total annual cost of operating the GON was \$13,199,726, up from \$8,924,912 in 2009.²¹ Maintenance and system operation cost \$8,009,105 and sales, customer service, and corporate operations totaled \$2,999,629.²²

The Network

CFU's FTTH network is 95 percent complete.²³ The new gigabit system was switched on in May 2013.²⁴ This GON offers only broadband Internet access and television services, not telephone. Customers also have access to CFU's wireless hotspots, which are available in parts of downtown Cedar Falls.²⁵ In terms of specific offerings, services include a stand-alone asymmetrical 2 Mbps connection for \$29.95 a month (\$34.95 for rural customers), a 30 Mbps asymmetrical connection for \$64.50 per month (\$69.50 for rural customers), and a 1 Gbps asymmetrical connection for \$265 a month (\$270 for rural customers).²⁶ Prices for business consumers are substantially higher (e.g., \$950.00 per month for 1 Gbps in the city, \$990 per month in rural areas).²⁷ CFU also makes available lit or dark dedicated fiber connections between customer-owned facilities, and wholesale bandwidth for other ISPs.²⁸

Over the last decade, the financial viability of the GON in Cedar Falls has fluctuated. The system rarely generated revenues to cover its total costs in the years before its upgrade,²⁹ and over the last few years, while total operating revenues exceeded total operating expenses, operating expenses continue to grow at a fast pace.³⁰

Community Impact

There are a number of positive impacts that have resulted from the GON in Cedar Falls which are often cited by CFU proponents and GON supporters.³¹ The utility estimates its customers pay about \$200 less each year for their Internet service than residents in neighboring "peer communities" in Iowa do.³² As of May 2013, CFU accrued about 11,600 total subscribers,³³ but without knowing the types of connections these customers purchased, it is difficult to determine whether the significant costs associated with upgrading its network to all-fiber are delivering value to customers—and the city generally—in excess of these reported savings. With anecdotal evidence suggesting very few customers opt for CFU's fastest speed tiers, it can be argued that the costs of building this GON outweigh the benefits that may stem from it.³⁴

Evidence that the GON spurred economic development and job creation is limited. A study from the early 2000s found that, while the presence of the GON appeared to play some role in influencing several firms to relocate to Cedar Falls, it was just one of many, arguably more important factors, making it difficult, if not impossible, to "verify that these developments [were] the direct result of the City's broadband delivery system."³⁵

CFU supporters and GONs advocates argue that the city's investment in its fiber upgrade has had positive impacts on its credit rating.³⁶ However, Moody's recently downgraded its bond rating from A1 to A3.³⁷ Moody's reasoned that CFU's debt is becoming increasingly illiquid, the network is highly leveraged (due mostly to its fiber expansion), and the network lost several major customers to competitors in recent years.³⁸ These challenges will be difficult to overcome as incumbents begin to leverage their nimbleness and compete more vigorously with CFU, especially on the price for higher-speed tiers.³⁹

Assessment

The huge cost and long-term debt associated with the municipal fiber system in Cedar Falls raise questions about opportunity costs and whether such substantial resources have been invested wisely. Such uncertainty gains additional primacy when viewed in light of other priorities competing for funding at the local level.

Recent debate over the town budget for fiscal year 2014 highlighted several of these.⁴⁰ Much to the dismay of many residents, the local government approved a property tax increase for the coming year.⁴¹ Some of these revenues might have been used to pay for a new highway interchange,⁴² highlighting another important trade-off that policy makers make when they elect to deploy a GON.⁴³

Infrastructure Needs in Iowa

Public infrastructure throughout the state requires significant attention—nearly half of the roads in the state are of poor or mediocre quality; more than a quarter of its bridges are structurally deficient or functionally obsolete; and nearly \$15 billion is needed to meet school, drinking water, and wastewater infrastructure needs.

Endnotes

- 1 See Doris J. Kelley, *A Study of the Economic and Community Benefits of Cedar Falls, Iowa's Municipal Telecommunications Network*, 2, Oct. 2, 2003, Cedar Falls Utilities, available at <http://www.lus.org/uploads/AStoryofTwoCities.pdf> (“*Study of the Economic and Community Benefits*”).
- 2 *Id.*
- 3 See *City of Cedar Falls, Iowa \$3,000,000 General Obligation Bonds, Series 1995B*, at p. 6, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (June 9, 1995), available at <http://emma.msrb.org/MS111001-MS86309-MD167913.pdf> (“*Cedar Falls \$3,000,000 General Obligation Bonds, Series 1995B*”).
- 4 *Id.*
- 5 *Id.*
- 6 *Study of the Economic and Community Benefits* at p. 2.
- 7 *Id.* at p. 3.
- 8 *Id.*
- 9 See John Molseed, *CFU Adds Fiber Optic Links to All Customers*, June 13, 2010, WCF Courier, available at http://wfcourier.com/news/local/article_4ccdbd5-1341-594a-bb4c-701305cd218b.html?mode=story (“*CFU Adds Fiber Optic Links*”).
- 10 See, e.g., Jon Ericson, *Cedar Falls Joins Elite ‘Gigabit City’ List*, May 8, 2013, WCF Courier, available at http://wfcourier.com/business/local/cedar-falls-joins-elite-gigabit-city-list/article_588684f4-4750-54c9-8c49-48fd5b891ba1.html.
- 11 *Cedar Falls \$3,000,000 General Obligation Bonds, Series 1995B* at p. 6.
- 12 *CFU Adds Fiber Optic Links*.
- 13 See *City of Cedar Falls, Iowa, \$2,320,000 General Obligation Capital Loan Notes, Series 2009B*, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (Nov. 30, 2009), available at <http://emma.msrb.org/EP357783-EP282175-EP677366.pdf>.
- 14 *Id.* at p. 13.
- 15 *Id.* at p. 2.
- 16 See *Municipal Communications Utility of the City of Cedar Falls Iowa, \$13,130,000 Communications Utility Revenue Capital Loan Notes, Series 2010*, Electronic Municipal Market Access, Municipal Securities Rulemaking Board (Sept 1, 2010), available at <http://emma.msrb.org/EA404810-EA316792-EA712527.pdf>.
- 17 *Id.* at p. 19.
- 18 *Id.* at p. 1.
- 19 See *Financial Statements of the Municipal Electric, Gas, Water, and Communications Utilities of the City of Cedar Falls, Iowa, For the Year Ending Dec 31, 2011*, at p. 28, Cedar Falls Utility (March 2012), available at <http://auditor.iowa.gov/reports/1223-0046-C000.pdf> (“*Financial Statements For the Year Ending Dec 31, 2011*”).
- 20 See *Advancing Broadband: A Foundation for Strong Rural Communities*, at p. 29, Rural Utilities Service, U.S. Dept. of Agriculture (Jan. 2011), available at http://www.rurdev.usda.gov/supportdocuments/RBB_report_whole-v4ForWeb.pdf.
- 21 See *Financial Statements of the Municipal Communications Utility of the City of Cedar Falls, Iowa, Including Independent Auditor's Report, For the Years Ended Dec. 31, 2012 and 2011*, at p. 3, Cedar Falls Utility (April 4, 2013), available at <http://emma.msrb.org/EP760639-EP589987-EP991542.pdf> (“*CFU Auditor Report, For the Years 2011 and 2012*”). See also *Financial Statements For the Year Ending Dec 31, 2011* at p. 3.
- 22 See *CFU Auditor Report, For the Years 2011 and 2012* at p. 3.
- 23 See CFU, Internet, <http://www.cfu.net/cybernet/default.aspx>.
- 24 See *CFU Launches Gigabit Internet Service*, May 28, 2013, Cedar Falls Times, available at http://www.communitynewspapergroup.com/cedar_falls_times/news/article_09479d64-c7ca-11e2-80e2-0019bb2963f4.html (“*CFU Launches Gigabit Internet Service*”).
- 25 See CFU, Free Wi-Fi Zones, <http://www.cfu.net/cybernet/wifi.aspx>.
- 26 See CFU, Internet—Residential Services, <http://www.cfu.net/cybernet/residential-service.aspx>.
- 27 See CFU, Internet—Business Services, <http://www.cfu.net/cybernet/business-service.aspx>.
- 28 See CFU, Internet and Fiber Services, <http://www.cfu.net/customer-service/commercial-services/fiber-services.aspx>.
- 29 See, e.g., Ronald Rizzuto, *Iowa Communications Systems: The Financial Track Record*, Heartland Institute (Sept. 2005), available at http://heartland.org/sites/all/modules/custom/heartland_migration/files/pdfs/17724.pdf.
- 30 *CFU Auditor Report, For the Years 2011 and 2012* at p. 6.
- 31 See CFU, Community Benefits, <http://www.cfu.net/about/community-benefits.aspx>.
- 32 See *CFU Residential Report Card for the Period of June 2012—May 2013*, CFU, available at http://www.cfu.net/webres/File/RPT_card.pdf.
- 33 *CFU Launches Gigabit Internet Service*.
- 34 See, e.g., *id.* (noting that these speeds will be attractive mostly to business customers in the short term). See also Steve Donohue, *Iowa City Charging \$275 Monthly for 1-Gig Broadband Service*, May 29, 2013, Fierce Cable, available at <http://www.fiercecable.com/story/iowa-city-charging-275-monthly-1-gig-broadband-service/2013-05-29> (noting that there is little demand for the 1 Gbps service at this point in time).
- 35 See Doris Kelley, *A Study of the Economic and Community Benefits of Cedar Falls, Iowa's Municipal Telecommunications Network*, at p. 12, Iowa Association of Municipal Utilities (July 2004), available at http://www.baller.com/pdfs/cedarfalls_white_paper.pdf.
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- 37 See Soo Yun Chung, *A3 Rating Applies to Approximately \$13 Million Senior-Lien Revenue Debt Outstanding*, March 8, 2013, Moody's Investor Services, available at http://www.moodys.com/research/Moodys-downgrades-to-A3-from-A1-the-rating-on-Cedar-PR_268153 (“*A3 Rating Applies to Approximately \$13 Million Senior-Lien Revenue Debt Outstanding*”).
- 38 *Id.*
- 39 See, e.g., Jeff Baumgartner, *Mediacom Faces 1 Gig Pressure in Iowa*, May 30, 2013, Multichannel News, available at <http://www.multichannel.com/distribution/mediacom-faces-1-gig-pressure-iowa/143570>.

40 See Tina Hinz, *Cedar Falls Budget Hearing Set for Feb. 25*, Feb. 18, 2013, WCF Courier, available at http://wfcourier.com/news/local/cedar-falls-budget-hearing-set-feb/article_7771e49b-33a6-568c-b35f-b08c11339daa.html.

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42 *Id.*

43 See ASCE Infrastructure Report Card 2013, States—Iowa, <http://www.infrastructurereportcard.org/a/#p/state-facts/iowa>.

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