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**From**

# **UNDERSTANDING THE DEBATE OVER GOVERNMENT-OWNED BROADBAND NETWORKS:**

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

## **Bristol Case Study**

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## Bristol, Virginia

The GON in Bristol, Virginia, shares many similarities with the GON in Chattanooga:

- ▶ Both fiber-optic networks were built by the city-owned utility;
- ▶ Both were initially deployed for municipal purposes and later extended to compete with incumbent ISPs for residential and business customers; and
- ▶ Both offer gigabit speeds.<sup>1</sup>

In addition, the network in Bristol, much like the one in Chattanooga, is being lauded as an economic engine for the town and surrounding region as well as a possible template for other cities interested in building their own municipal broadband network.<sup>2</sup> From the standpoint of serving as a model for other municipalities, the Bristol network is also like Chattanooga in that it emerged from a very distinct set of circumstances — economic, financial, political, and otherwise. These unique attributes are discussed at length in the following case study.

### Bristol, Virginia At-A-Glance



**City Population:** 17,662 (2012)

**Year of Network Launch:** 2002

**Current Status:** Built

**Number of subscribers:** 13,400

**Revenues:** NA

**Operating Expenses:** NA

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

## Background

In 1999, BVU, the board of Bristol’s municipal utility, and the Bristol City Council approved construction of a fiber-optic network to enhance communication between the utility’s eight electric substations.<sup>3</sup> Later that year, the City Council voted to expand the network to connect all city offices, including City Hall, public schools, libraries, and the police and fire departments.<sup>4</sup> Looking beyond purely municipal functions, the council initially planned to partner with a private ISP in an effort to facilitate commercial broadband service to residents, but the city eventually elected to build that portion of the network itself.<sup>5</sup> To that end, the BVU board in 2001 approved an engineering study to determine the cost of providing FTTH service to all customers—public and private—throughout the utility’s service territory.<sup>6</sup>

Efforts to expand the municipal network for commercial purposes faced numerous challenges from multiple parties, including the ISPs that were already serving the city. For example, one such incumbent argued that Virginia law barred municipalities from offering retail telecommunications services.<sup>7</sup> In response, Bristol sought a declaratory judgment from a federal court stating that the relevant state law was unenforceable because it was superseded by the 1996 Telecommunications Act.<sup>8</sup> The court agreed with the city and, in 2001, ruled that the state law was “preempted by the Federal Telecommunications Act of 1996 ... and is therefore invalid and unenforceable under the Supremacy Clause of the Constitution.”<sup>9</sup> The law was quickly amended by the Virginia legislature, and BVU was eventually allowed to offer commercial communications services.<sup>10</sup>

In 2002, BVU began to deploy its network in the Bristol area.<sup>11</sup> During construction, the utility partnered with Cumberland Plateau Company (CPC), a nonprofit subsidiary of the Cumberland Plateau Planning District Commission, to expand the GON to industrial and business subscribers beyond Bristol in southwest Virginia.<sup>12</sup> This extension was funded by several state and federal grants, including a \$1.6 million allocation from the U.S. Department of Commerce and a matching grant from the Virginia Tobacco

Indemnification and Community Revitalization Commission.<sup>13</sup> The state funds stemmed from a sizable legal settlement with the tobacco industry.<sup>14</sup>

In 2009, the City Council asked the Virginia General Assembly to allow BVU to transition from city ownership to an independent authority owned by the state (BVU moved for independence so that it could legally expand its territory).<sup>15</sup> Amid some controversy,<sup>16</sup> the state legislature established the BVU Authority as an organization independent from the city and regulated by the state.<sup>17</sup> As a result, the Bristol City Council no longer approves the decisions of the BVU Authority Board.<sup>18</sup>

## Cost and Financing

To date, over \$100 million has been spent on this GON, with more than half coming from several rounds of municipal bond issuances. During the initial phase of construction, for example, BVU spent \$13.6 million for equipment and network infrastructure.<sup>19</sup> To fund these and other network costs, \$27.5 million in revenue bonds were issued in 2003, secured by the utility's assets.<sup>20</sup>

In 2010, the Authority “pledged future customer revenues, net of specified operating expenses, to repay \$44,545,000 in revenue bonds issued [that] October.”<sup>21</sup> Proceeds from this sale helped to refinance and refund previous bond issuances. These new bonds are “payable solely from BVU’s net revenues and are payable through 2033.”<sup>22</sup> By one recent estimate, the “total principal and interest remaining to be paid on the bonds is approximately \$73,927,054.”<sup>23</sup>

BVU has also received tens of millions of dollars in one-off grant funding from an array of federal and state entities. For example, deployment of the GON has been fueled by more than \$24 million in federal grants since 2003,<sup>24</sup> with an additional \$28.4 million coming in July 2010 via the federal stimulus program.<sup>25</sup> These funds were allocated to BVU in support of a “388-mile fiber addition to its existing network that would bring up to 10 Gbps middle mile service to a rural, eight-county region of southwestern Appalachian Virginia.”<sup>26</sup> With regard to state-specific grant funding, BVU has received over \$30 million in “monetary grant awards” from the Virginia Tobacco Commission between 2003 and 2011.<sup>27</sup>

## The Network

As of early 2012, BVU coverage exceeded 35,000 homes and businesses.<sup>28</sup> This number has likely grown as the network expands to other parts of Southwest Virginia. By the end of 2013, BVU had signed up about 13,400 subscribers.<sup>29</sup> Under its OptiNet brand, BVU offers voice, video, and data services to customers via its FTTH network. Service options range from a 20 Mbps stand-alone broadband connection for \$39.95 per month to \$319.95 per month for an asymmetrical 1 Gbps connection.<sup>30</sup> Television and telephone services are also available as stand-alone products or as part of a bundle.<sup>31</sup>

Despite BVU Authority and BVU OptiNet’s financial viability, the GON has struggled financially. Year-over-year revenue growth remains modest, but the GON has managed to be self-sustaining based on current rates and charges.<sup>32</sup> In the most recent financial year, BVU reported that OptiNet had generated \$2 million in profit.<sup>33</sup> OptiNet has yet to contribute funds directly to the city of Bristol.<sup>34</sup>

## Community Impact

The Bristol GON has received praise for spurring economic development in the city and surrounding areas in southeast Virginia. One leading example: defense contractor Northrop Grumman’s decision to build a new data facility in the BVU service territory.<sup>35</sup> Although the company highlighted the local

network as one of the reasons for locating the center in the area, Northrop had already committed to building the facility somewhere in Virginia.<sup>36</sup> Northrup and the state of Virginia had previously entered into a 10-year, \$2.4 billion contract whereby the private contractor would “overhaul the state’s computer networks” and otherwise manage critical aspects of the newly created Virginia Information Technologies Agency.<sup>37</sup> (Northrop was already one of the largest employers in the state.) As such, the jobs and investment stemming from the new facility in southeast Virginia were expected and not necessarily created by the GON.

Other jobs have been created since construction of the GON. DirecTV, for example, hired 100 locals for a “virtual call center” in 2010.<sup>38</sup> These new employees work from home and earn \$10 per hour.<sup>39</sup> Broadband is necessary to support these jobs, but the presence of the GON does not appear to have been essential in bringing these jobs to fruition.<sup>40</sup>

Alpha Natural Resources, a large coal company, built its new headquarters in Bristol, Virginia, the heart of “coal country.” There is debate about the role that broadband played in the company’s decision to stay in Bristol.<sup>41</sup> An array of multi-million dollar tax incentives offered by the city and state was also a major factor in the decision-making process.<sup>42</sup> Location in coal country was another consideration.<sup>43</sup>

For Bristol, the decision to create an independent BVU Authority has been a divisive issue.<sup>44</sup> There has been significant debate at the local level regarding the merits of providing broad independence to an entity that oversees a network built with taxpayer resources. Although the use of such public authorities is a standard practice in many states, some residents accused the city of shifting to an authority model in an attempt to prevent public scrutiny of a project that had amassed significant debt.<sup>45</sup> Creating a quasi-independent authority allowed the city to remove the GON’s tens of millions of dollars of debt from its books and freed the new entity to assume even more debt and grow beyond the boundaries initially set for it.<sup>46</sup>

## Assessment

In assessing the Bristol experience, it is important to understand factors that make the Bristol GON experience unique and may make it difficult for other jurisdictions to replicate. Like many other GONs across the country, the municipal broadband network in Bristol has significant debt and, though profitable, there is continued debate as to whether the benefits of the system outweigh the significant public resources that were used to build it.

The Bristol network, much like GONs in Chattanooga and elsewhere, owes its existence in large part to federal and state grant funding unlikely to be replicated over the long term. The Bristol network benefited from over \$30 million in state funding that stemmed from a major legal settlement with the tobacco industry in the 1990s.<sup>47</sup> Even with this infusion of funding, the GON, as discussed above, remains about \$70 million in debt.

### Additional Infrastructure Needs In Virginia

The decision to invest tens of millions of dollars of public funding in the GON resulted in resources not being allocated to shoring up failing infrastructure in the Bristol area, as well as other parts of the state. Roads, bridges, and dams throughout the state are failing and in need of billions of dollars in investment over the next decade. In particular, about a quarter of its bridges are either structurally deficient or functionally obsolete, while nearly half of the roads in the state are of poor or mediocre quality.<sup>48</sup> In addition, the state’s drinking and wastewater facilities require in excess of \$12 billion in investment by 2020 to adequately maintain and upgrade these vital elements of the state’s public infrastructure.<sup>49</sup>

## Endnotes

- 1 See, e.g., Arik Hesseldahl, *Want Gigabit Internet? You Don't Have to Move to Kansas City*, July 30, 2012, All Things D, available at <http://allthingsd.com/20120730/want-gigabit-internet-you-dont-have-to-move-to-kansas-city/> (providing an overview of the network in Bristol).
- 2 See, e.g., Bradley Kramer, *Pioneering Spirit: Bristol, VA, Trailblazing Muni FTTH*, at p. 22, LastMILE (Sept. 2008), available at <http://www.metaswitch.com/sites/default/files/case-study-bvu.pdf>; *Broadband at the Speed of Light* at p. 2-15.
- 3 See Wes Rosenbalm, *FTTU Broadband Network Currently Offered in Bristol Virginia and Neighboring Southwest Virginia Counties Through BVU OptiNet*, at p. 3, Report to Sheryl Bailey, Executive Director Virginia Resources Authority (Aug. 2008), available at [http://www.wired.virginia.gov/pdf/BVU%20OptiNet\\_VRA%20Governor%20Report.doc](http://www.wired.virginia.gov/pdf/BVU%20OptiNet_VRA%20Governor%20Report.doc) (“FTTU Broadband Network”).
- 4 *Id.*
- 5 *Id.*
- 6 *Id.*
- 7 This restriction was enacted in 1998. See HB 335, <http://leg1.state.va.us/cgi-bin/legp504.exe?981+ful+CHAP0906>.
- 8 *City of Bristol v. Mark L. Earley*, Case No. 1:00CV00173, (U.S. Dist. Va. Abington Dist. Ct May 26, 2001), available at <http://www.vawd.uscourts.gov/OPINIONS/JONES/CITY.PDF>.
- 9 *Id.* at p. 18-19
- 10 *Broadband at the Speed of Light* at p. 4.
- 11 *Id.* at p. 6.
- 12 *Id.*
- 13 *Id.*
- 14 For additional information, see Virginia Tobacco Indemnification and Community Revitalization Commission, Home, <http://www.tic.virginia.gov/>. See also James Shea, *Tobacco Dollars Extend Broadband for Southwest Virginia*, Dec. 8, 2013, TriCities.com, available at [http://www.tricity.com/news/local/article\\_ea52b42c-6083-11e3-8d56-0019bb30f31a.html](http://www.tricity.com/news/local/article_ea52b42c-6083-11e3-8d56-0019bb30f31a.html) (“Tobacco Dollars Extend Broadband for Southwest Virginia”).
- 15 See, e.g., David McGhee, *BVU Spinoff Motivation Questioned*, Oct. 15, 2009, News Channel 11, available at <http://www.wjhl.com/story/20794222/bvu-spinoff-motivation-questioned>.
- 16 See, e.g., Frank Goodpasture III, *Don't Let Split Vote Take BVU from City*, Oct. 27, 2009, Tricity.com, available at [http://www.tricity.com/news/article\\_4039d978-d4bd-51df-a79c-5857c180e4c9.html](http://www.tricity.com/news/article_4039d978-d4bd-51df-a79c-5857c180e4c9.html).
- 17 See BVU Authority Transition Agreement, available at [http://static.mgnetwork.com/tri/media\\_path/-temp/BVU\\_Doc001.pdf](http://static.mgnetwork.com/tri/media_path/-temp/BVU_Doc001.pdf).
- 18 *Broadband at the Speed of Light* at p. 3.
- 19 *Id.* at p. 2.
- 20 *Id.*
- 21 See *City of Bristol Audited Financial Statement: For the Year Ended June 30, 2012*, at p. 61, available at <http://www.bristolva.org/DocumentCenter/View/246>.
- 22 *Id.* These bonds limit direct taxpayer liability, but allow the network to increase revenues through raising prices and rates.
- 23 *Id.*
- 24 See Susan Kendall, *Moody's Assigns A2 Issuer Rating to BVU Authority (VA)*, Nov. 9, 2010, Moody's, available at [http://www.moody.com/research/MOODYS-ASSIGNS-A2-ISSUER-RATING-TO-BVU-AUTHORITY-VA-Rating-Update--RU\\_16711855](http://www.moody.com/research/MOODYS-ASSIGNS-A2-ISSUER-RATING-TO-BVU-AUTHORITY-VA-Rating-Update--RU_16711855) (“Moody's Assigns A2 Issuer Rating to BVU”).
- 25 *Id.* For additional discussion regarding the federal stimulus program for broadband, see *infra*, section 6.1.2.
- 26 See Broadband USA, Grantees—Bristol Virginia Utilities Board, <http://www2.ntia.doc.gov/grantee/bristol-virginia-utilities-board>.
- 27 See *Funding Revitalization and Innovation in the Tobacco Region*, at p. 3, Virginia Tobacco Commission (June 2011), available at <http://www.tic.virginia.gov/images/VA%20Business%20Magazine%20Ads/Broadband/June%202011%20Virginia%20Business%20Magazine%20Broadband.pdf>. See also *Tobacco Dollars Extend Broadband for Southwest Virginia*.
- 28 *Broadband at the Speed of Light* at p. 2.
- 29 *Tobacco Dollars Extend Broadband for Southwest Virginia*.
- 30 See BVU OptiNet, Internet Packages, [http://www.bvu-optinet.com/templates/default.php?purl=internet\\_res\\_hispeed&turl=inside\\_3col\\_std\\_template.htm](http://www.bvu-optinet.com/templates/default.php?purl=internet_res_hispeed&turl=inside_3col_std_template.htm).
- 31 For additional information, see BVU OptiNet, Home, <http://www.bvu-optinet.com>.
- 32 See Stacy Mawson, *Fitch Affirms Bristol Virginia Utilities Authority Util Sys Rev Bonds at 'A-'; Outlook Stable*, Dec. 28, 2012, Fitch Ratings, available at [http://www.fitchratings.com/creditdesk/press\\_releases/detail.cfm?pr\\_id=778403](http://www.fitchratings.com/creditdesk/press_releases/detail.cfm?pr_id=778403).
- 33 See David McGee, *BVU Reports Financial Gains, Lower Expenses*, Feb. 6, 2013, Bristol Herald Courier, available at [http://www.tricity.com/news/local/article\\_f4c3103a-6dab-11e2-a07c-0019bb30f31a.html](http://www.tricity.com/news/local/article_f4c3103a-6dab-11e2-a07c-0019bb30f31a.html).
- 34 See *Budget Comparison & Budget for 2013-2014*, at p. 8, City of Bristol, available at, <http://www.bristolva.org/DocumentCenter/View/357>.
- 35 *Broadband at the Speed of Light* at p. 3.
- 36 See, e.g., *Fibre in Paradise*, Feb. 18, 2010, The Economist, available at <http://www.economist.com/node/15549324> (providing an overview of the Northrup project). See also Press Release, *Northrop Grumman and the Virginia Information Technologies Agency Open New High-Tech Facility in Russell County, Va.*, Dec. 12, 2007, Globe Newswire, available at <http://globenewswire.com/news-release/2007/12/12/370405/132900/en/Northrop-Grumman-and-the-Virginia-Information-Technologies-Agency-Open-New-High-Tech-Facility-in-Russell-County-Va.html> (providing additional background regarding the contractual relationship between Northrop and the state).
- 37 See Rosalind S. Helderman, *Virginia Revises Troublesome Northrop Contract*, April 7, 2010, Washington Post, available at <http://www.washingtonpost.com/wp-dyn/content/article/2010/04/06/AR2010040604178.html?hpid=sec-metro>.
- 38 See Michael Owens,  *DirecTV Plans to Hire 100 for Virtual Call Center*, March 31, 2010, Tricity.com, available at [http://www.tricity.com/news/article\\_327f3bd5-7ecc-5399-8f19-30614268eb83.html](http://www.tricity.com/news/article_327f3bd5-7ecc-5399-8f19-30614268eb83.html).

- 39 *Id.*
- 40 *Id.*
- 41 See, e.g., *Community Broadband Creates Jobs* at p. 1.
- 42 See David McGee, *\$3 million in Local Incentives for Alpha Natural Resources to Build Near Sugar Hollow Park*, Nov. 13, 2009, WJHL, available at <http://www.wjhl.com/story/20780580/3-million-in-local-incentives-for-alpha-natural-resources-to-build-near-sugar-hollow-park> (discussing the array of local and state tax incentives).
- 43 See, e.g., *Alpha Natural Resources Opens Headquarters in Bristol Virginia*, Nov. 29, 2011, Yes Virginia Business Blog, available at <http://www.yesvirginia.org/BlogSpot/post/Alpha-Natural-Resources-Opens-Headquarters-in-Bristol-Virginia.aspx> (“Location was a key deciding factor in Virginia’s favor. According to CEO Kevin Crutchfield, “The property is in a very attractive park-like setting and has easy Interstate access. A distinct advantage of the new location is its proximity to many of the company’s operations and its convenience for Alpha’s current corporate office work force.””).
- 44 See Dave McGee, *Bristol Council Meeting Tinged with Thorns of Criticism*, June 23, 2010, Tricities.com, available at [http://www.tricities.com/news/article\\_d810e7e0-ac1e-52ad-bd1f-fee92a9c24fa.html](http://www.tricities.com/news/article_d810e7e0-ac1e-52ad-bd1f-fee92a9c24fa.html).
- 45 See Daniel Gilbert, *BVU asks judge to throw out lawsuit that would block utility’s separation bid*, Dec. 23, 2009, WJHL, available at <http://www.wjhl.com/story/20779711/bvu-asks-judge-to-throw-out-lawsuit-that-would-block-utility-s-separation-bid>.
- 46 *Id.*
- 47 The money stems from a \$200 billion settlement with major tobacco companies in the 1990s. Funds are allocated annually to states. See, e.g., Paige Winfield Cunningham, *Your Tobacco Settlement Funds at Work*, Dec. 5, 2010, Wash. Post Local Blog Network, available at <http://www.washingtonpost.com/wp-dyn/content/article/2010/12/04/AR2010120403000.html>.
- 48 See ASCE 2013 Infrastructure Report Card, States—Virginia, <http://www.infrastructurereportcard.org/virginia/virginia-overview/>.
- 49 See ASCE 2013 Infrastructure Report Card, States—Virginia, <http://www.infrastructurereportcard.org/a/#p/state-facts/virginia>.

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