

EVALUATING THE RATIONALES FOR GOVERNMENT-OWNED BROADBAND NETWORKS

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The Advanced Communications Law and
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1. INTRODUCTION

Narratives matter in politics and policymaking. How an issue is framed and the evidence offered in support combine to tell a distinctive story about a particular issue or industry; the goal is to pique the interest of stakeholders and animate or deter a particular type of response. In the context of the market for broadband Internet access in the United States, two competing narratives have emerged, each with a unique set of arguments, evidence, and desired outcomes.

The first narrative relies on a broad range of data to tell an optimistic and truthful story about broadband in the United States. These data indicate that, as a result of enormous investment by and robust competition among broadband Internet service providers (“ISPs”), *high-speed Internet connections are available to all but a very small percentage of households in the United States*. Consumers, businesses, entire industries and a growing array of core institutions are greatly benefiting not only from such near-ubiquitous access, but also from innovation and competition among companies in other sectors (e.g., device manufacturers and content producers) throughout a burgeoning broadband ecosystem.¹ As a result, this narrative calls for the continuation of the prevailing regulatory regime – one that is minimalist in nature and administered at the national level – in order to preserve the exceedingly dynamic, innovative, and competitive nature of this flourishing market.²

The second narrative, however, is diametrically opposed and relies mostly on conjecture to tell a pessimistic and misleading story, one in which broadband service in the United States, despite data to the contrary, is woefully inadequate. This leitmotif is punctuated by arguments that broadband in the U.S. “sucks” because it is too slow and too expensive,³ and because consumers are at the mercy of unresponsive firms operating in an increasingly consolidated – and therefore uncompetitive – marketplace.⁴ Accordingly, the narrators of this tale support broad government interventions to save the failing market. Key components of this strategy include a fundamental recalibration of the regulatory approach to broadband and a revised structure of the market for Internet access services.⁵ More specifically, proponents of this narrative view local government as a collective *deus ex machina* needed to revitalize a flagging broadband sector.⁶ The result has

¹ See, e.g., *Connecting America: The National Broadband Plan*, at 15-16, FCC (2010), available at <http://download.broadband.gov/plan/national-broadband-plan.pdf> (discussing the notion of a “broadband ecosystem”) (“*National Broadband Plan*”).

² For a persuasive argument in favor of such a regulatory approach, see Jeffrey Eisenach, *Broadband Competition in the Internet Ecosystem*, American Enterprise Institute (Oct. 2012), available at http://www.aei.org/files/2012/10/17/-broadband-competition-in-the-internet-ecosystem_164734199280.pdf.

³ See Larry Lessig, *Why Your Broadband Sucks*, WIRED (March 2005), available at <http://www.wired.com/wired/archive/13.03/view.html?pg=5>.

⁴ See, e.g., Susan P. Crawford, *The Communications Crisis in America*, 5 Harv. L. & Pol’y Rev. 245 (2011).

⁵ The academic literature in support of such a response is vast and growing. For recent examples, see Susan P. Crawford, *Transporting Communications*, 89 Boston U. L. Rev. 871 (2009) (arguing in favor of common carrier regulation for broadband); Lee L. Selwyn & Helen E. Golding, *Revisiting the Regulatory Status of Broadband Internet Access: A Policy Framework for Net Neutrality and an Open and Competitive Internet*, 63 Fed. Comm. L.J. 91 (2010) (calling for the reclassification of broadband Internet access service as a “telecommunications service,” which would result in the application of common carrier rules).

⁶ See, e.g., Hannibal Travis, *Wi-Fi Everywhere: Universal Broadband Access as Antitrust and Telecommunications Policy*, 55 Am. U. Law. Rev. 1697 (2006) (arguing that “Congress and the states should encourage cities and counties to provide free and low-cost Wi-Fi broadband to their citizens.” *Id.* at 1704); Christopher Mitchell, *Broadband at the Speed of Light*, Institute for Local Self Reliance (April 2012), available at <http://www.ilsr.org/wp-content/uploads/2012/04/muni-bb-speed-light.pdf> (profiling three municipal broadband systems and arguing that, since “communities that do not invest in their own next generation networks will likely not see any significant broadband investment in the near future,” municipalities should consider building their own systems. *Id.* at vii).

been the deployment of a growing number of costly government-owned broadband networks (“GONs”) throughout the United States.⁷

Whether GONs are a prudent and appropriate investment of public funds and other resources is the subject of fierce debate. Advocates and opponents alike cite an array of reasons, data points, successes, and failures as evidence of the wisdom or folly of having a municipality enter the broadband market as a service provider. In many ways, this debate is a microcosm of the larger conversation about broadband in the United States and which of the competing narratives more accurately reflects the consumer experience and the realities of the marketplace across the country. Ultimately, since GONs are seen by some as the best remedy for an ailing U.S. broadband market, evaluating their efficacy at a very high level of abstraction – i.e., at the national level, rather than on a case-by-case basis – is instructive.

1.1 Paper Overview

This paper has two core goals with respect to GONs. First, in **section 2**, it seeks to place the debate over GONs into proper context by evaluating whether, *from the municipal perspective*, these networks are appropriate investments of public resources. Drawing on an array of data points and analyses regarding broadband availability, the fragility of basic public infrastructure due to underinvestment by local government, and the precariousness of local, state, and federal finances, this section concludes that GONs are extremely risky investments that, more often than not, are squandered.

The second core goal of the paper is to evaluate, *from a public policy perspective*, five major rationales that have been put forward in support of GONs. As detailed at length in **section 3**, these rationales encompass a broad range of motivations and policy justifications and include using a GON to bring broadband to unserved areas or to inject competition into a local market. Others attempt to position government-owned networks as essential investments aimed at spurring local economic development and job creation, while some see the pursuit of a GON as nothing more than a natural expression of local self-reliance. Taken together, the analyses included in this section underscore that GONs are counterproductive responses to circumstances that could be improved in a more efficient manner.

The paper concludes in **section 4** with a brief overview of alternative paths that municipalities, in partnership with counterparts in the private and nonprofit sectors, might pursue to bolster broadband connectivity by individuals and innovators in key sectors like healthcare and education. Local government is well positioned to engage in a range of supply-side and demand-side activities that could yield many benefits for residents in a less costly and hazardous manner than endeavoring to build a GON.

2. PROPERLY CONTEXTUALIZING THE GONS DISCUSSION

Among the many issues over which the proponents and opponents of GONs disagree is whether and to what extent these enormously complex undertakings are essential investments that must be made by municipalities. Those who advance the pessimistic narrative about broadband in the

(“*Speed of Light*”); SUSAN CRAWFORD, CAPTIVE AUDIENCE: THE TELECOM INDUSTRY AND MONOPOLY POWER IN THE NEW GILDED AGE 270 (Yale, 2013) (calling on Americans to “encourage[e] towns and municipalities to oversee their own open-access, nondiscriminatory, fast fiber networks”) (“CAPTIVE AUDIENCE”).

⁷ *Speed of Light* at iv (noting that, as of April 2012, “more than 150 communities have built their own citywide cable and FTTH networks.”).

United States argue that cities and towns have an obligation to provide residents with broadband Internet access because, in the absence of such direct government intervention, existing market forces are incapable of creating incentives for ISPs to continue investing in next-generation networks.⁸ At the core of this argument is a belief that broadband is nothing more than a public utility – like electricity or water service – that necessitates close regulation and, in many cases, municipal provision in order to assure adequate access.⁹

In the abstract, these arguments have some superficial appeal, especially when viewed in light of the many economic, social, and public policy implications of greater broadband connectivity.¹⁰ But when set against the backdrop of reality – in particular, the reality of the broadband market in the United States (section 2.1) and the economic realities facing municipalities and states across the country (section 2.2) – these arguments ultimately fail. This section makes clear that, when viewed in proper context, municipal broadband projects are neither compelling nor wise investments of increasingly scarce public resources.

2.1 The State of Broadband in the United States

A wide array of data points demonstrate that broadband in the United States is an overwhelming success story.

Over the last decade, wireline and wireless broadband have become widely available across the vast majority of the United States. In December 2000, the FCC reported that there were only about seven million broadband lines in service;¹¹ by the end of 2011, that number had increased to 230 million.¹² According to the National Broadband Map, which compiles data from a number of sources, 96.5 percent of housing units in the U.S. had access to at least one wireline broadband provider in June 2012, while less than one percent of the population lacked access to a wireless broadband provider.¹³ Equally as important, the intermodal nature of the broadband market – the ability to deliver service in several different ways (e.g., via cable modem, fiber, wirelessly) – has resulted in most consumers having a menu of service options available to them. Nationally, over 1,600 different companies currently provide broadband Internet access service,¹⁴ up from just 130 in 2000.¹⁵

⁸ See, e.g., CAPTIVE AUDIENCE at 267-270.

⁹ This belief undergirds many proposals calling for the reclassification of broadband as a “telecommunications service” and the imposition of common carrier-like regulation on this service. For additional discussion, see, e.g., Rob Frieden, *From Bad to Worse: Assessing the Long-Term Consequences of Four Controversial FCC Decisions*, 77 Brook. L. Rev. 959 (2012). See also CAPTIVE AUDIENCE (arguing that broadband should be seen and regulated as a public utility).

¹⁰ Many of these were made in the context of the FCC’s *National Broadband Plan*, which was drafted at the behest of Congress in an effort to articulate a strategy for leveraging high-speed Internet connectivity for a variety of “national purposes,” including “advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth.” *National Broadband Plan* at 3.

¹¹ See *High-Speed Services for Internet Access: Status as of Dec. 31, 2005*, at Table 1 and 10, FCC (July 2006), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-266596A1.pdf.

¹² See *Internet Access Services: Status as of December 31, 2011*, at 1, FCC (Feb. 2013), available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0213/DOC-318810A1.pdf (“*Internet Access Services: Status as of Dec. 31, 2011*”).

¹³ See National Broadband Map, Summarize, Analyze: Nationwide, <http://www.broadbandmap.gov/summarize/nationwide>.

¹⁴ *Internet Access Services: Status as of Dec. 31, 2011* at Table 21.

As these data indicate, some parts of the U.S. still lack access to a broadband connection. The FCC reported that the number of households in the United States without access to a terrestrial wireline broadband connection was 19 million in June 2011, down from 26 million in June 2010.¹⁶ Three-quarters of these households are in rural parts of the country.¹⁷ Fortunately, many of these households are in areas served by at least one wireless broadband provider, while satellite broadband remains an option for nearly every consumer in the United States.¹⁸ The FCC is undertaking a variety of reforms to address these unserved areas by shifting federal subsidies to support broadband deployment to “uneconomic” regions.¹⁹ In addition, numerous other options exist for bolstering connectivity in these areas.

In general, the tremendous growth in broadband availability and variety has been fueled by significant investment in networks on the part of service providers. Broadband ISPs invested over \$1 trillion in their networks between 1996 and 2010.²⁰ In 2011 alone, service providers invested \$66 billion²¹ – \$13 billion by cable,²² \$25 billion by wireless,²³ and the remainder by telecommunications companies.²⁴ These investments reflect intense competition among ISPs for customers, which in turn has resulted in the deployment of more robust network infrastructure and increased upload and download speeds for consumers.²⁵ Moreover, the emergence of a vibrantly innovative broadband ecosystem continues to provide consumers with a rapidly growing number of applications and services to access via these more robust connections.²⁶ The

¹⁵ See *High-Speed Services for Internet Access: Subscriberhip as of Dec. 31, 2000*, at Table 5, FCC (Aug. 2001), available at http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd0801.pdf.

¹⁶ See *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 8th Broadband Progress Report, para. 5, GN Docket No. 11-121 (rel. Aug. 21, 2012) (“8th Broadband Progress Report”).

¹⁷ *Id.* at para 48.

¹⁸ The FCC’s measurement and analysis of broadband in the United States, in the context of its annual broadband progress report, does not currently take into account the availability of mobile broadband or satellite broadband connections. *Id.* at para. 40-41. However, the FCC, as of February 2013, has begun to evaluate the robustness of satellite broadband for the purposes of comparing it with the performance of terrestrial fixed (i.e., non-mobile) broadband connections. In a recent report, the FCC observed that “a new generation of satellites...have greatly improved overall performance” and service quality. See *Measuring Broadband America – February 2013*, Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, FCC (Feb. 2013), available at <http://www.fcc.gov/measuring-broadband-america/2013/February> (“*Measuring Broadband America – February 2013*”).

¹⁹ See *In the Matter of Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (rel. Nov. 18, 2011) (“*Connect America Order*”).

²⁰ See Patrick Brogan, *Updated Capital Spending Data Show Continued Significant Broadband Investment in Nation’s Information Infrastructure*, USTelecom Research Brief (April 12, 2012), available at http://www.ustelecom.org/sites/default/files/documents/042012_Investment_2011_Research_Brief.pdf (“*Capital Spending Data*”).

²¹ *Id.*

²² See NCTA, *Investments in Infrastructure*, <http://www.ncta.com/StatsGroup/Investments.aspx>.

²³ See CTIA – The Wireless Association, *Quick Facts*, <http://www.ctia.org/advocacy/research/index.cfm/AID/10323>.

²⁴ *Capital Spending Data*.

²⁵ *Measuring Broadband America – February 2013*.

²⁶ As the FCC concluded in 2012 after studying broadband performance metrics in the U.S., continued “expansion in high speed networks across the nation will provide economic opportunities, increase civic engagement, deliver on the promise of better access to healthcare and online learning, and help fuel the development of a smart power grid and a more highly interactive and responsive public safety network. Infrastructure empowers innovation and innovation

combined effects of this interplay among segments and firms in the ecosystem has been a broader array of service options – in terms of speed, pricing, content, and data packages – for consumers.²⁷

But despite such widespread availability of broadband, about one-third of Americans choose not to subscribe.²⁸ Many disparities in broadband connectivity are correlated with factors like educational attainment, income level, and age, while obvious divides in home broadband adoption persist between Whites, African-Americans, and Hispanics.²⁹ In addition, dozens of legal, regulatory, public policy and perceptual barriers prevent more robust adoption and use of this technology by innovators and institutions in key sectors like education, energy, and healthcare.³⁰ As discussed below, municipalities are uniquely positioned to play a lead role in addressing these and related demand-side issues.³¹

With regard to addressing supply-side issues, the vast majority of consumers are already well served by broadband ISPs. Moreover, market forces and intermodal competition are generating enormous consumer welfare gains for consumers across the United States. And while small pockets of the country remain unserved, a combination of federal policy reforms,³² public-private partnerships,³³ and private-sector investment are seeking to ensure that every household in the United States has the opportunity to subscribe to broadband.³⁴ In this context, GONs are largely a solution in search of a problem.

drives demand for infrastructure.” See *Measuring Broadband America – July 2012*, FCC (July 2012), available at <http://www.fcc.gov/measuring-broadband-america/2012/july> (“*Measuring Broadband America – July 2012*”).

²⁷ *Id.*

²⁸ See Kathryn Zickuhr and Aaron Smith, *Digital Differences*, at 8, Pew Internet & American Life Project (April 2012), available at http://www.pewinternet.org/~media/Files/Reports/2012/PIP_Digital_differences_041312.pdf (“*Digital Differences*”).

²⁹ *Id.* at 4. See also *See Exploring the Digital Nation: Computer and Internet Use at Home*, at vi, National Telecommunications & Information Administration, U.S. Department of Commerce (Nov. 2011), available at http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_computer_and_internet_use_at_home_11092011.pdf (“*Exploring the Digital Nation*”).

³⁰ For an overview of these barriers, see *Barriers to Broadband Adoption: A Report to the FCC*, the Advanced Communications Law & Policy Institute at New York Law School (Oct. 2009), available at http://www.nyls.edu/user_files/1/3/4/30/83/ACLP%20Report%20to%20the%20FCC%20-%20Barriers%20to%20BB%20Adoption.pdf (“*Barriers to Broadband Adoption*”).

³¹ See, e.g., Charles M. Davidson & Michael J. Santorelli, *Broadband and the Empire State: Toward Universal Connectivity in New York*, at 29-31, A Report by the ACLP at New York Law School (Sept. 2012), available at http://www.nyls.edu/user_files/1/3/4/30/83/ACLP%20Report%20-%20Broadband%20and%20the%20Empire%20State%20-%20September%202012.pdf (discussing a range of possible demand-side roles for stakeholders at the state and local levels) (“*Broadband and the Empire State*”).

³² Discussed *supra* and *infra*, section 3.1.

³³ In New York, for example, the governor has invested more than \$50 million in public-private partnerships to facilitate the deployment of broadband networks to unserved parts of the state. See Press Release, *Governor Cuomo Announces State's Largest Single Investment to Bridge the Digital Divide in New York's History*, March 9, 2013, Office of the Governor of the State of New York, available at <http://www.governor.ny.gov/press/03052013-25-million-dollar-grant-bridge-digital-divide>.

³⁴ AT&T, for example, plans to invest \$14 billion over the next three years to bring next-generation wireline and wireless broadband to nearly every customer in its service footprint. More specifically, AT&T estimates that these investments, coupled with appropriate regulatory reforms, will result in wireline broadband being available to 75 percent of its customers and wireless broadband being available to 99 percent of customers. See Press Release, *AT&T to Invest \$14 Billion to Significantly Expand Wireless and Wireline Broadband Networks, Support Future IP Data Growth and New Services*, Nov. 7, 2012, AT&T, available at <http://www.att.com/gen/press-room?pid=23506&cdvn=news&newsarticleid=35661>.

2.2 The Economic Realities Facing Municipalities Across the United States

Properly contextualizing the debate over GONs also requires a frank evaluation of the economic realities facing cities and towns across the United States. For proponents of GONs, such evaluation rarely, if ever, occurs. While fiscal and financial circumstances vary from municipality to municipality, the recent recession and continued economic turbulence have highlighted some basic and generally applicable truths for local and state government entities. First among these is that municipal finances are, at best, in a precarious state of affairs. Second, state and local government must do a better job prioritizing spending and targeting investments of increasingly scarce public resources. An inability to do so to date has led to chronic underinvestment in critical infrastructure like roads and bridges, which, in turn, has hampered more robust economic development at the local, state, and federal levels.

The volatile and fragile nature of municipal finances, and their close relationship with state government, has been exposed in dramatic fashion by the Great Recession. *In general, more than half of local budget revenues stem from two sources: state budget dollars and property taxes.*³⁵ Although other revenue sources exist in some cases, including an array of additional local taxes and targeted federal grants, “states fund on average close to a third of local budgets.”³⁶ The recent economic downturn has resulted in a significant curtailment of state aid in more than half of the states, while overall property tax receipts fell by tens of billions of dollars over the course of 2008-2011.³⁷ Upheaval in the housing market – housing prices fell by one-fifth between 2007 and 2011; about 1.5 million houses were lost to default or foreclosure during the same period of time – has resulted in an overall reduction in local tax bases.³⁸ Federal sequestration, which went into effect on March 1, 2013, is also expected to negatively impact state and local finances.³⁹

Reduced budgets and scarcer dollars have strained the ability of municipalities to continue forward with generous pension, healthcare, and related obligations. While annual pension contributions by state and local government have more than doubled over the last decade, “unfunded pension liabilities [for local governments]...total \$3 trillion, and unfunded health benefit liabilities are more than \$1 trillion.”⁴⁰ Nevertheless, municipalities are, in many cases,

³⁵ See, e.g., *The Local Squeeze: Falling Revenues and Growing Demand for Services Challenge Cities, Counties, and School Districts*, at 1, The Pew Charitable Trusts (June 2012), available at http://www.pewstates.org/uploadedFiles/PCS_Assets/2012/Pew_Cities_Local%20Squeeze_report.pdf (“Local Squeeze”).

³⁶ *Id.* at 5.

³⁷ *Id.* at 7-10.

³⁸ *Id.* at 9-10.

³⁹ See, e.g., John P. Huston, *Highland Park and Other Local Governments Watching for Sequester Impact*, March 4, 2013, Chicago Tribune, available at http://articles.chicagotribune.com/2013-03-04/news/ct-tl-lk-0307-sequestration-20130305_1_sequester-social-service-programs-federal-money (detailing expected cuts in local funding as a result of federal sequestration); Erin Durkin, *City Budget Director Mark Page Says Federal Cuts will Hit City for \$800 million, Could Create Huge Budget Gap*, March 4, 2013, N.Y. Daily News, available at <http://www.nydailynews.com/new-york/sequester-toll-city-800m-budget-pain-article-1.1279319> (same).

⁴⁰ See Kris Maher, Bobby White and Valerie Bauerlein, *Hard Times Spread for Cities*, Aug. 10, 2012, Wall St. Journal (citing studies by the Center for Retirement Research at Boston College and the Nelson A. Rockefeller Institute of Government) (“*Hard Times Spread for Cities*”).

legally obligated to continue making contributions in support of these benefits regardless of the health of their budgets.⁴¹

Taken together, such financial burdens have resulted in a relatively high number of municipal bankruptcy filings and bailouts by states, as well as higher taxes, mass layoffs of public workers, and reduced service offerings by cities and towns struggling to rebalance their finances after such a severe economic shock.⁴² Indeed, the distressed nature of municipal finances in general has become a “major threat” to the fiscal sustainability of the states.⁴³ And the direness of this situation is made even more acute by ongoing efforts to reduce the federal deficit, which will likely result in less direct aid to the states and, by implication, less aid to municipalities.⁴⁴

The practical impact of these many related fiscal dynamics is a profound recalibration of how municipalities collect and allocate public resources. In the GONs context, the most prominent issue vis-à-vis the proper use of public resources is whether and to what extent such funds should be diverted away from investing in the types of basic infrastructure that municipalities have long been responsible for spearheading and maintaining. The local role in supporting the conservation and modernization of these basic public services is clear. As noted by one recent analysis of state and local finances, “states and their localities finance nearly three-quarters of all public infrastructure — schools, highways and transit systems, [and] drinking water” among them.⁴⁵ These investments, which have generated and continue to sustain millions of jobs, are critical aspects of local economic development and have become core municipal functions.⁴⁶

However, because of chronic underinvestment, much of the basic infrastructure in the United States is outdated and crumbling. According to the American Society of Civil Engineers, the state of America’s infrastructure is nearly failing (it received an overall grade of “D” on a scale of A-F) because of an investment gap exceeding \$2 trillion.⁴⁷ Over the last fifty years, public

⁴¹ See, e.g., National League of Cities, State and Local Government Pensions, <http://www.nlc.org/build-skills-and-networks/resources/cities-101/city-finances/state-and-local-government-pensions> (noting that “pension obligations are legally binding, often backed by explicit state constitutional or statutory guarantees”).

⁴² *Hard Times Spread for Cities*. See also Michael A. Pagano, Christopher W. Hoene & Christiana McFarland, *City Fiscal Conditions in 2012*, at 1, Research Brief on America’s Cities, National League of Cities (Sept. 2012), available at <http://www.nlc.org/Documents/Find%20City%20Solutions/Research%20Innovation/Finance/city-fiscal-conditions-research-brief-rpt-sep12.pdf> (providing a detailed examination of local fiscal conditions).

⁴³ See generally *Report of the State Budget Crisis Task Force*, State Budget Crisis Task Force (July 2012), available at <http://www.statebudgetcrisis.org/wpcms/wp-content/images/Report-of-the-State-Budget-Crisis-Task-Force-Full.pdf> (“*State Budget Crisis Task Force Report*”).

⁴⁴ See, e.g., Michael Cooper, *As State Budgets Rebound, Federal Cuts Could Pose Danger*, Dec. 14, 2012, N.Y. Times, available at <http://www.nytimes.com/2012/12/14/us/as-state-budgets-rebound-federal-cuts-could-pose-danger.html?ref=todayspaper&r=1&>.

⁴⁵ *State Budget Crisis Task Force Report* at 6.

⁴⁶ The recent recession has forced many cities to rethink their role in funding and otherwise maintaining certain types of local infrastructures. One of the most popular solutions for cities and states across the country has been an increased use of public-private partnerships to leverage scarce public resources and spread investment risk while also benefiting from the expertise of private-sector firms. For a discussion of such an approach in Chicago, see *A Question of Trust*, May 12, 2012, *The Economist* (“With the speedy approval of the city council [the mayor] created a new breed of infrastructure finance known as the Chicago Infrastructure Trust (CIT). The trust is not so much an infrastructure bank with money to hand out, but a city effort to match public infrastructure needs to private investors on a case-by-case basis; something more like an exchange.”).

⁴⁷ See *2009 Report Card for America’s Infrastructure*, at 2, American Society of Civil Engineers (2009), available at http://www.infrastructurereportcard.org/sites/default/files/RC2009_full_report.pdf.

investment in infrastructure, when measured as a share of annual GDP, has decreased sharply.⁴⁸ And in the aftermath of major weather events or other catastrophes, the vulnerable nature of much of this infrastructure is made even clearer.⁴⁹

As such, calls for repairing and modernizing basic infrastructural inputs have grown louder in recent years. Among the infrastructure investments cited most often as top priorities by policymakers and the public are allocations to modernize public transportation (including roads, bridges, and mass transit systems),⁵⁰ drinking water and wastewater infrastructures,⁵¹ and the electric grid.⁵² There are also widely recognized policy imperatives around bolstering investment in other essential elements of public infrastructure, including schools and government buildings, many of which have not been refurbished in decades.⁵³

When viewed in this context, investing public resources in GONs is difficult to justify.⁵⁴ Indeed, even though the FCC has described broadband as the “great infrastructure challenge of the early 21st century,” the resources and expertise for meeting this challenge reside in the private sector, which has largely succeeded in bringing robust broadband access to nearly every corner of the country.⁵⁵

2.3 Conclusions

Juxtaposing the success of the broadband market with the failure of states and local government (and the federal government) to maintain the most basic of infrastructure argues strongly for local governments staying out of the broadband business. Indeed, as officially sanctioned creations of the state, municipalities have a responsibility to invest public resources in a manner that is efficient and welfare-enhancing and to ensure that they do not tip toward bankruptcy and thus overburden state governments. As such, and in light of ongoing economic uncertainty at every level, GONs are best seen as extremely risky and unnecessary endeavors that imperil the fiscal stability of cities and towns where broadband connections are already available.

⁴⁸ See, e.g., Samuel Sherraden, *The Infrastructure Deficit*, Feb. 3, 2011, New America Foundation, available at http://newamerica.net/publications/policy/the_infrastructure_deficit.

⁴⁹ See, e.g., Kate Ascher, *New York's Neglected Infrastructure Fails*, Nov., 3, 2012, CNN, available at <http://www.cnn.com/2012/11/02/opinion/ascher-new-york-infrastructure/index.html> (highlighting the need for more investment in infrastructure upgrades in the aftermath of Hurricane Sandy).

⁵⁰ See, e.g., *A New Economic Analysis of Infrastructure Investment*, at 3-4, A Report Prepared by the U.S. Dept. of Treasury with the Council of Economic Advisors (March 2012), available at <http://www.treasury.gov/resource-center/economic-policy/Documents/20120323InfrastructureReport.pdf>.

⁵¹ See, e.g., *Failure to Act: The Economic Impact of Current Investment Trends in Water and Wastewater Treatment Infrastructure*, American Society of Civil Engineers (Dec. 2011), available at http://www.asce.org/uploadedFiles/Infrastructure/Failure_to_Act/ASCE%20WATER%20REPORT%20FINAL.pdf (highlighting the negative impacts of underinvestment on these critical infrastructures).

⁵² See, e.g., *Blueprint for a Secure Energy Future*, The White House (March 30, 2011), available at http://www.whitehouse.gov/sites/default/files/blueprint_secure_energy_future.pdf (outlining policy priorities for the entire energy sector, including modernizing the electric grid).

⁵³ See, e.g., *State Budget Crisis Task Force Report* at 72-77.

⁵⁴ See, e.g., *Fiscal Cliff, Weak Economy Spotlight Municipalities' Challenges, Local Advocates Say*, Nov. 20, 2012, Communications Daily (highlighting the many economic and financial headwinds facing municipalities across the U.S. and the myriad funding priorities competing for scarce public resources).

⁵⁵ Discussed *supra*, section 2.1.

Nevertheless, local and state governments do have numerous constructive roles to play in this space, including strategically targeting available subsidies to support network deployment in unserved areas, forging public-private partnerships to address issues on the supply-side and the demand-side (e.g., outreach and training programs), and reforming outdated regulatory frameworks for communications services.⁵⁶ These actions, which are discussed in more detail in section 4, would be well within the accepted ambit of action on the part of municipalities.

3. EVALUATING FIVE MAJOR RATIONALES IN FAVOR OF GONS

Despite crumbling infrastructure in virtually every state, severe budget challenges (and bankruptcies), and a thriving market for broadband services, municipalities across the United States continue to pursue – and advocates continue to encourage – the construction of GONs, often citing several rationales as compelling evidence in support of these imprudent investments. This section evaluates five major rationales that have been put forward to validate GONs.

3.1 The Availability Rationale

A leading rationale in favor of deploying a GON is that, but for such an undertaking, a particular municipality or region would remain without adequate access to broadband. In the abstract, this argument has some intuitive appeal since millions of households across the United States currently lack access to a terrestrial wireline broadband connection.⁵⁷ Enhancing availability was the original animating force behind the municipal broadband movement when it emerged in earnest in the early 2000s.⁵⁸ At that time, the primary means of attempting to assure ubiquity via a GON was to deploy Wi-Fi mesh networks across entire cities and make basic Internet access available at a steeply discounted rate or for free.⁵⁹ However, many of these projects failed because the municipal provider simply had no business plan to offset the high costs of deploying such a network.⁶⁰ As a result, a large number of cities, including Philadelphia, Anaheim, Orlando, and San Francisco, wisely discarded plans for deploying municipal Wi-Fi networks that had been framed, in large part, as necessary efforts to bridge local “digital divides.”⁶¹

These and more recent failures reflect a basic truth about broadband: it is extremely expensive to provide. Broadband networks require significant upfront and recurring investments to deploy, maintain, and upgrade the many components that comprise these complex systems. An important corollary to this basic tenet is that some areas remain unserved because they have been deemed “uneconomic” by government entities at the state and federal levels. In other words, in the absence of subsidies to support network deployment, no business case exists for providing service in these areas.⁶²

⁵⁶ See, e.g., *Broadband and the Empire State*. Additional discussion is provided in section 4, *infra*.

⁵⁷ As discussed in section 2.1, *supra*, most households in these areas have access to multiple mobile and satellite broadband providers.

⁵⁸ See, e.g., Michael J. Santorelli, *Rationalizing the Municipal Broadband Debate*, 3 ISJLP 43 (2007) (providing a comprehensive overview of early municipal broadband efforts).

⁵⁹ *Id.* See also Sharon E. Gillett, *Municipal Wireless Broadband: Hype or Harbinger?*, 79 S. Cal. L. Rev. 561 (2006) (providing an overview of municipal wireless projects in the early 2000s).

⁶⁰ See, e.g., Dan P. Lee, *Power: Whiffing on Wi-Fi*, Sept. 24, 2008, Philadelphia Magazine, available at <http://www.phillymag.com/articles/power-whiffing-on-wi-fi/> (examining the failed municipal Wi-Fi initiative in Philadelphia).

⁶¹ See, e.g., Judy Keen, *Cities Turning Off Plans for Wi-Fi*, Sept. 20, 2007, USA Today.

⁶² This general observation has been echoed numerous times by the FCC. See, e.g., *Connect America Order* at 17961.

Oftentimes, particular regions of the country remain unserved because they have extremely low population densities. Providers of network services, especially in the communications space, benefit from economies of scale and density.⁶³ Practically speaking, this means that it is significantly less expensive to provide service in densely populated urban areas than sparsely populated rural areas. National broadband availability data indicate that this relationship is evident throughout the United States.⁶⁴ More specifically, as the FCC observed in 2010: “average population density of populated census blocks in the United States is 153.6 people per square mile...Unserved census blocks have a much lower density, with an average of only 13.8 people per square mile.”⁶⁵ And even in unserved cities and towns where network construction can be “fully subsidized by public funds,” some areas are so remote or sparsely populated that recurring network maintenance costs will continue to exceed revenues and thus make it impossible for the service to “operate profitably.”⁶⁶

In short, the economics of providing broadband service in unserved areas are daunting. The complex formulae and policy prescriptions put forward by the FCC in its recent reforms of the Universal Service Fund and intercarrier compensation framework, which were undertaken to support broadband deployment in unserved areas, are but a small testament to the difficulty of determining a workable solution to a problem that has long vexed policymakers at every level.⁶⁷ In the context of GONs, the notion that a local government possesses the expertise and keen economic insights to split the proverbial Gordian knot of universal service is dubious at best. Indeed, significant evidence to the contrary exists – municipalities are poorly equipped to participate in a market “where technology is constantly changing and firms need to be flexible and have the ability to constantly update their business plans.”⁶⁸

3.2 The Competition Rationale

In cities and towns where broadband is already available, the primary rationale in favor of a GON is that it will inject competition into the local market. Advocates in favor of such an undertaking typically reason that, since existing broadband offerings, in terms of availability, speeds, and prices, are “inadequate,” residents and businesses will benefit from the introduction of a competing municipal network.⁶⁹ This extremely normative perspective stems directly from

⁶³ This is a basic and widely recognized economic principle. See, e.g., *National Broadband Plan* at 47.

⁶⁴ See, e.g., *8th Broadband Progress Report* at para. 83-84.

⁶⁵ See *The Broadband Availability Gap*, at 19-20, OBI Technical Paper No. 1, FCC (April 2010), available at <http://download.broadband.gov/plan/the-broadband-availability-gap-obi-technical-paper-no-1.pdf>.

⁶⁶ *Id.* at 9.

⁶⁷ These initial FCC efforts focused on facilitating broadband deployment to “costly-to-serve communities where even with our actions to lower barriers to investment nationwide, private sector economics still do not add up, and therefore the immediate prospect for stand-alone private sector action is limited.” *Connect America Order* at para. 5.

⁶⁸ See Joseph P. Fuhr, Jr., *The Hidden Problems with Government-Owned Networks*, at 2, Coalition for the New Economy (Jan. 2012), available at <http://www.coalitionfortheneweconomy.org/wp-content/uploads/2012/01/1-6-12-Coalition-for-a-New-Economy-White-Paper.pdf> (“Hidden Problems”).

⁶⁹ See, e.g., CAPTIVE AUDIENCE at 270; Hibah Hussein et al., *The Cost of Connectivity: A Comparison of High-Speed Internet Prices in 22 Cities Worldwide*, New America Foundation (July 2012), available at http://newamerica.net/sites/newamerica.net/files/policydocs/The_Cost_of_Connectivity.pdf (“...policymakers need to address the lack of competition in most of the U.S. and how policies can enable new competitors to enter the marketplace. Moreover policymakers should encourage competition from all sectors, including the public sector.” *Id.* at 11); Christopher Mitchell, *Publicly Owned Broadband Networks: Averting the Looming Broadband Monopoly*, Institute for Local Self-Reliance (March 2011), available at <http://www.newrules.org/sites/newrules.org/files/cmyt-bb-map.pdf> (“Now more than ever we need to know about the potential of public ownership” of broadband networks, *id.* at 1) (“Averting the Looming Broadband Monopoly”).

the pessimistic view of broadband in the United States. From this vantage, the municipality is trusted above all others with the responsibility of disciplining and correcting an otherwise failing market based on the rationale that “networks owned by local governments, nonprofit organizations, or cooperatives are structurally responsive to the community first and should own this essential infrastructure.”⁷⁰

This rationale is based on a number of specious claims about the nature of competition in the broadband market. First and foremost, it revolves around a very rudimentary understanding of competition, one that is largely inapplicable in the modern context. In particular, it eschews direct, data-based measures of consumer welfare in favor of traditional measures – e.g., the number firms in a particular sector and their market shares – which tend to be imperfect indicators.⁷¹ As a result, this perspective of the marketplace ignores the high levels of innovative dynamism in the U.S. broadband sector, which signal intense competition among firms throughout the emerging ecosystem.⁷²

Second, this rationale contradicts an array of analyses confirming that, by nearly every measure, the U.S. broadband market is vibrantly competitive. Indeed, from a variety of vantages, the vast majority of consumers in the United States are benefitting from intermodal competition among ISPs and firms in other segments of the ecosystem that are vying for their attention – and dollars.⁷³ On numerous occasions, the FCC has observed a marketplace that has proven adept at meeting consumer demand for more robust connectivity (e.g., faster speeds), more service options (e.g., differentiated pricing plans), and lower prices.⁷⁴

Third, this rationale wrongly positions municipalities and policymakers as the best judges of whether the U.S. broadband market or a particular local market is effectively competitive. While the FCC has been tasked by Congress to monitor the national marketplace and undertake certain policy responses based on its analyses, state and local government are ill-equipped to make such judgments.⁷⁵ As mentioned previously, even the FCC has been unable to properly measure and assess competition and otherwise harness the many new metrics emerging from this space.⁷⁶

⁷⁰ *Averting the Looming Broadband Monopoly* at 7.

⁷¹ See, e.g., Thomas W. Hazlett, *The Federal Communications Commission's Excellent Mobile Competition Adventure*, George Mason University Mercatus Center Working Paper No. 11-46 (Nov. 2011), available at http://mercatus.org/sites/default/files/publication/FCC_Hazlett.pdf (discussing this in the mobile broadband context).

⁷² For an incisive analysis of the dynamics of disruption in the modern economy, see Larry Downes and Paul F. Nunes, *Big-Bang Disruption*, Harvard Business Review (March 2013), available at <http://hbr.org/2013/03/big-bang-disruption/ar/1>.

⁷³ See generally CHRISTOPHER S. YOO, *THE DYNAMIC INTERNET: HOW TECHNOLOGY, USERS, AND BUSINESSES ARE TRANSFORMING THE NETWORK* (AEI Press 2012) (discussing this interplay of firms and the resulting evolution of business models).

⁷⁴ See, e.g., *Measuring Broadband America – July 2012* (applauding broadband ISPs for “improving the quality of broadband access for the public” throughout the United States).

⁷⁵ In the wireless space, the Communications Act calls on the FCC to “review competitive market conditions with respect to commercial mobile services and shall include in its annual report an analysis of those conditions.” 47 U.S.C. § 332(c)(1)(C). In the context of wireline broadband, the Act requires the Commission to determine “whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.” 47 U.S.C. § 1301 et seq.

⁷⁶ See, e.g., Larry Downes, *How the FCC Sees Broadband's 95% Success as 100% Failure*, Aug. 23, 2012, Forbes.com, available at <http://www.forbes.com/sites/larrydownes/2012/08/23/how-the-fcc-sees-broadbands-95-success-as-100-failure/>.

Such determinations are best made by consumers, who are increasingly seeing their demands met by service providers as a result of intense competitive pressure in the marketplace.

Fourth, and perhaps most perversely, the proposed solution – the construction of a GON – would likely tilt the playing field against the private sector. GONs typically result in artificial market distortions, which have especially pernicious effects in a sector that has thrived because of a relatively level playing field among competitors.⁷⁷ Introducing a “competitor” that has a perceived (unfair) competitive advantage because of its affiliation with government could chill or drive away investment, slow innovation, and undermine the very market forces that have fostered a vibrantly competitive ecosystem in this space.⁷⁸

In sum, the “competition rationale” in favor of GONs is unconvincing and represents a normative policy prescription to a problem that objective data indicate does not exist at this point in time.

3.3 The Overbuild Rationale

A more nuanced rationale typically offered in support of a GON arises in instances where a municipality seeks to extend to residents a broadband network that was built for use only by local government. In this context, the pro-GON argument is usually framed as a way for municipalities to generate a better return on their investments by putting these networks to higher value uses. Typically, the original impetus for building these networks was to bolster municipal services, including critical functions like public safety.⁷⁹ But, for a diverse array of reasons, these networks have often been under-utilized, failing to justify the significant upfront investments of tax dollars that were required to deploy the networks and prompting some cities to enter the commercial broadband business in an effort to generate revenues that could offset the cost of these systems.

A leading cautionary tale arguing strongly against this rationale comes from Burlington, Vermont. Initially, the city raised money to build a municipal fiber-optic network that could “replace[] the leased broadband and voice lines of the schools and city departments” and ultimately “decreas[e] the city’s telecom expenses.”⁸⁰ In 2005, Burlington began to expand this network to residents and businesses at a cost of \$20 million – about ten times the amount that was needed for the initial municipal deployment.⁸¹ After securing this funding from private lenders, Burlington Telecom (BT), the system’s operator, extended the network and began to offer service to residents. By 2007, BT appeared to be inching toward financial sustainability,⁸² but, one year later, the service was unable to generate revenues sufficient to cover debt payments.⁸³ During the economic downturn, the city elected to continue financing the project

⁷⁷ For a more comprehensive discussion of this interplay between policy, investment, and competition, *see generally* JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET AGE* (MIT 2005).

⁷⁸ *See, e.g., Hidden Problems* at 5-6.

⁷⁹ *See, e.g., Rationalizing the Municipal Broadband Debate* at 71-72.

⁸⁰ *See* Christopher Mitchell, *Learning From Burlington Telecom*, at 2, Institute for Local Self-Reliance (Aug. 2011), available at <http://www.muninetworks.org/sites/www.muninetworks.org/files/bt-lessons-learned.pdf>.

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

out of a general cash pool.⁸⁴ By 2009, BT's debts to private institutions and the city had grown even larger, prompting the City Council to conclude that BT was "too deeply indebted to break even given the size of its customer base."⁸⁵ After a series of negotiations and lawsuits over repayment of private loans, as well as a comprehensive inquiry by the state, BT remains mired in debt and continues to struggle to expand its user base.⁸⁶ This failing system has also hurt the city's credit rating, which has been downgraded several times over the last few years.⁸⁷

An interesting counterpoint to the Burlington experience can be found in Seattle. Beginning in 2005, the city deployed a "meager" Wi-Fi network in select parts of the downtown and in public parks.⁸⁸ In early 2012, local policymakers ended the initiative citing cost concerns.⁸⁹ In addition, the city shifted its focus to leasing part of its internal fiber network to the highest bidder.⁹⁰ By the end of 2012, the city had forged a public-private partnership to "develop and operate an ultra-high-speed fiber-to-the-home/fiber-to-the-business broadband network."⁹¹ More specifically, this initiative "leverage[s] the City of Seattle's excess fiber capacity, the expertise of Gigabit Squared [the nonprofit coordinating entity] and the community leadership of The University of Washington" in an effort to "stimulate business opportunities [and] spur advancements in health care, education, and public safety."⁹²

As the Burlington example and others amply demonstrate, the overbuild rationale in favor of a GON is unpersuasive. Many of these efforts ultimately fail. *The common thread across many of these failures is the total assumption of risk by the municipality and the inability to develop a sustainable business model.* In cases where there is a compelling case for a municipality to lease excess capacity of proprietary broadband networks, the better approach is to forge public-private partnerships in an effort to share the risk with and tap into the expertise of firms and organizations operating in the private and nonprofit sectors.⁹³

3.4 The Smart Community/Economic Development Rationale

Another major rationale offered in favor of GONs is that these networks are needed to serve as the foundation for "smart" communities and smarter services, which would greatly benefit residents, businesses, and the local economy.⁹⁴ Implicit in this argument is that such

⁸⁴ *Id.*

⁸⁵ *Id.* at 4.

⁸⁶ See, e.g., John Briggs, *Debt Takes Toll; Burlington Telecom Treads Water*, May 13, 2012, Burlington Free Press, available at <http://www.burlingtonfreepress.com/article/20120514/NEWS02/120513019/Debt-takes-toll-Burlington-Telecom-treads-water>.

⁸⁷ See *Moody's Downgrades Burlington's Bond Rating*, June 21, 2012, Vermont Biz, available at <http://www.vermontbiz.com/news/june/moodys-downgrades-burlingtons-bond-rating>.

⁸⁸ See, e.g., Brier Dudley, *Seattle Pulls Plug on its Broadband Network*, May 6, 2012, Seattle Times, available at <http://seattletimes.nwsourc.com/html/business/technology/20120506/brier07.html>.

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ See *City of Seattle, University of Washington, and Gigabit Squared Announce Plan to Develop Ultra-fast Broadband Network*, Dec. 13, 2012, Gigabit Seattle, available at <http://gigabitseattle.com/city-of-seattle-university-of-washington-and-gigabit-squared-announce-plan-to-develop-ultra-fast-broadband-network/>.

⁹² *Id.*

⁹³ See, e.g., *Hidden Problems* at 8-9; *Broadband and the Empire State* at 25-29.

⁹⁴ See, e.g., *Speed of Light*; Christopher Mitchell, *Breaking the Broadband Monopoly: How Communities are Building the Networks they Need*, Institute for Local Self-Reliance (May 2010), available at

investments are vital to bolstering local economic development and job creation while also positioning U.S. cities to compete with international counterparts in an increasingly globalized digital economy.⁹⁵

The fundamental flaw of this rationale is the assumption that the public sector is better positioned than the private sector to provide the sort of Internet connectivity that is needed to continue driving investment and innovation in the broadband ecosystem. The notion that broadband is the foundation for the 21st century economy is widely accepted,⁹⁶ as is the fact that high-speed Internet connectivity is disrupting important sectors of the economy like education, energy, and healthcare.⁹⁷ But the argument that cities are better equipped to spearhead such a fundamental economic and social shift in the United States simply fails.

An abundance of data demonstrates that the primary source of creative destruction, job creation, and investment in new services and markets is the private sector.⁹⁸ In addition, this pro-GONs rationale overlooks the limited, but nonetheless important, roles played by policymakers at the federal and state levels vis-à-vis facilitating innovation. Indeed, the federal government supports numerous initiatives and programs focused on encouraging innovation in many sectors by providing seed funding and key regulatory support.⁹⁹ Similarly, state governments are uniquely positioned to remove the myriad legal, regulatory, and policy barriers

<http://www.muninetworks.org/sites/www.muninetworks.org/files/breaking-bb-monopoly.pdf> (highlighting the role that municipal networks can play in facilitating improvements to the provision of electric service).

⁹⁵ See, e.g., Craig Aaron, *The Promise of Municipal Broadband*, *The Progressive* (Aug. 2012), available at <http://www.progressive.org/mag/aaron0808.html> (“Local control—and with it, jobs and revenues staying in the community—appears to be one of the elements of success for municipal broadband projects large and small. The money stays in the community, jobs are being created, and everyone from firefighters to meter readers benefits.”); *Fact Sheet: Community Broadband Creates Jobs*, Institute for Local-Self Reliance (Nov. 2012), available at <http://muninetworks.org/sites/www.muninetworks.org/files/fact-sheet-econ-dev.pdf> (“Community-owned networks often deliver the highest capacity connections at far greater levels of reliability than cable and DSL companies – they are focused on helping local businesses, not extracting monopoly profits.”).

⁹⁶ See, e.g., *National Broadband Plan* at 3.

⁹⁷ See, e.g., Michael J. Santorelli, *Regulatory Federalism in the Age of Broadband: A U.S. Perspective*, 2 *Policy & Internet* 99 (2010) (discussing the many implications of broadband-enabled innovation in the healthcare and energy spaces) (“*Regulatory Federalism in the Age of Broadband*”); Charles M. Davidson & Michael J. Santorelli, *The Impact of Broadband on Education*, a Report to the U.S. Chamber of Commerce (Dec. 2010), available at http://www.nyls.edu/user_files/1/3/4/30/83/Davidson%20&%20Santorelli%20-%20The%20Impact%20of%20Broadband%20in%20Education%20-%20December%202010%20%28FINAL%29.pdf.

⁹⁸ See *supra*, section 2.1, for a discussion of private-sector investment in broadband. This investment has supported the deployment of next-generation broadband networks throughout the vast majority of the U.S. and has facilitated the growth of a vibrantly innovative and intensely competitive ecosystem. As noted in one recent analysis of the importance of sustained private investment in broadband networks:

“...the commitment of these telecom companies to investment in wireless infrastructure, cable communications, and processing equipment is a good example of how investment can have important spillover benefits. By using the infrastructure developed and maintained by telecom companies, companies that develop software applications for smart devices along with companies that provide Internet services—like Facebook and Twitter—are able to innovate and get those innovations to consumers quickly. Because of the broadband networks in place these non-telecom companies are able to expand their businesses and service offerings.”

Diana G. Carew & Michael Mandel, *Investment Heroes: Who's Betting on America's Future?*, at 4, Progressive Policy Institute – Policy Brief (July 2012), available at http://progressivepolicy.org/wp-content/uploads/2012/07/07.2012-Mandel_Carew_Investment-Heroes_Whos-Betting-on-Americas-Future.pdf.

⁹⁹ See, e.g., *National Broadband Plan*.

that are impeding more robust adoption and use of broadband-enabled services by innovators and entrepreneurs.¹⁰⁰

Cities certainly have appropriate roles to play in facilitating the development of smarter services and in harnessing the power of broadband to accelerate economic gains, but these roles should be limited lest they skew or undermine the market forces that are shaping and reshaping the broadband ecosystem daily. GONs advocates, however, persist in putting forward this rationale and cite the use of GONs to support the deployment of smart energy services as a primary example in support of its efficacy. The leading case study offered here is Chattanooga, Tennessee, which is home to a municipal broadband network and a smart grid infrastructure.¹⁰¹ To date, its smart grid has produced tangible results by preventing outages, streamlining service recovery, and generating cost savings for the utility.¹⁰² But these perceived successes are misleading for several reasons.

First, the cost of building the smart grid network in Chattanooga, which represents a major barrier throughout this space,¹⁰³ was underwritten in large part by the federal government in the form of a \$111 million grant.¹⁰⁴ But for this one-time injection of funds, it remains to be seen whether the local utility would have been able to undertake this type of upgrade to its grid infrastructure. Second, this smart grid system should not be conflated with the commercial GON that has been deployed in Chattanooga. These two systems provide radically different services, and the benefits of the smart grid accrue in much different ways than commercial broadband connectivity. Third, the cost of deploying the city's gigabit network has been enormous and, while overall subscribership appears to be relatively stable, the number of people actually subscribing to its signature gigabit service is very small.¹⁰⁵ For these and many other reasons, the system still remains mired in substantial debt.¹⁰⁶

More generally, this example belies an emerging, positive trend in cities and towns across the country toward privatizing a range of services that were once traditionally the exclusive province of local government (e.g., maintaining parking meters).¹⁰⁷ The benefits of this approach are

¹⁰⁰ See generally *Barriers to Broadband Adoption* (highlighting dozens of state-level barriers to adoption in the energy, education, and healthcare sectors, among others).

¹⁰¹ See, e.g., *Speed of Light* at 42-44 (profiling the smart grid system in Chattanooga).

¹⁰² See, e.g., Katherine Tweed, *Smart Grid Saves EPB Chattanooga \$1.4M in One Storm*, Oct. 17, 2012, Green Tech Grid, available at <http://www.greentechmedia.com/articles/read/distribution-automation-saving-epb-millions> (noting that, as a result of the smart grid, "The utility had a 55 percent reduction in duration of outages, and the expedited restoration saved EPB Chattanooga \$1.4 million.").

¹⁰³ *Barriers to Broadband Adoption* at 58-60.

¹⁰⁴ See Press Release, *EPB Chattanooga Awarded Federal Stimulus Grant for Smart Grid*, Oct. 28, 2009, EPB, available at <https://www.epb.net/news/news-archive/epb-chattanooga-awarded-federal-stimulus-grant-for-smart-grid/>.

¹⁰⁵ See Ellis Smith, *EPB Urged to Cut Gig Internet Price in Chattanooga*, Aug. 18, 2012, Times Free Press, available at <http://www.timesfreepress.com/news/2012/aug/18/epb-urged-to-cut-gig-price-chattanooga/> (noting that "For all the talk of Chattanooga's gigabit network, only 34 customers actually subscribe to the \$350-per-month service.").

¹⁰⁶ See, e.g., Ellis Smith, *Chattanooga's EPB Wins Acclaim for Fiber-Optics*, Oct. 20, 2012, Times Free Press, available at <http://www.timesfreepress.com/news/2012/oct/20/epb-wins-acclaim-for-fiber-optics-chattanooga/> (noting that the "utility still owes about \$287.5 million" in debt).

¹⁰⁷ Examples range from small towns privatizing nearly all of their services to larger cities like Chicago that have privatized targeted functions like the administration and maintenance of parking meters. See, e.g., David Segal, *A Georgia Town Takes the People's Business Private*, June 23, 2012, N.Y. Times (discussing the broad privatization efforts of Sandy Springs, Georgia); Ted Mann, *City Explores Private Deal for Meters*, May 13, 2012, Wall St. Journal (discussing how some larger cities have begun to privatize parking meters).

clear: it saves the municipality (and taxpayers) money and leverages the economic incentives for private firms seeking to compete in this space, which helps to optimize outcomes. And from an economic development perspective, this type of business climate tends to be more favorable to job creation than one where the municipality assumes the role of industrial planner. Indeed, claims that the mere presence of a government-owned broadband network will automatically spur business formation and somehow conjure a Silicon Valley-type environment is naïve at best and deceptive at worst.¹⁰⁸

3.5 The Local Self-Reliance Rationale

The final major rationale often put forward in favor of a GON is that, as a matter of public policy and in the spirit of local self-reliance, municipalities should have the freedom to do what they want in the broadband space. This hyper-local perspective typically reflects a desire for “humanly scaled institutions and economies and the widest possible distribution of ownership.”¹⁰⁹ Accordingly, the preferred relationship between towns and government at the state and federal levels is one of bottom-up policymaking – a framework that recognizes that communities “make better and more informed policies when those who design those policies are those who feel their impact.”¹¹⁰

In the context of empowering cities and towns to build broadband networks, the analogy cited most often vis-à-vis preserving local self-reliance is the rural electrification initiative of the early 20th century.¹¹¹ Although that comparison is problematic in many respects – broadband is not a natural monopoly service¹¹² – it does highlight the extreme nature of many pro-GONs arguments. Moreover, it dismisses the simple fact that municipalities, at bottom, are creations and ultimately the responsibility of the state. As discussed in section 2.2, the nature and depth of this relationship came into sharp focus during the recent recession when a number of towns and cities went into or teetered on the brink of bankruptcy. To remove any sort of state oversight from the GONs equation is to advocate for a fundamental recalibration of government in the United States.

Congress recognized the tenuous nature of local self-reliance in the communications context when it enacted the Telecommunications Act of 1996 (“Act”), the first major rewrite of the nation’s telecommunications laws since 1934. In particular, while it recognized that municipalities had a role to play in the modern communications space, the Act provided the states and the federal government, via the FCC, with several checks on this authority. For example, the Act preserved the ability of municipalities to manage their rights-of-way,¹¹³ but also

¹⁰⁸ See, e.g., EDWARD GLAESER, TRIUMPH OF THE CITY: HOW OUR GREATEST INNOVATION MAKES US RICHER, SMARTER, GREENER, HEALTHIER, AND HAPPIER 29-34 (Penguin 2011) (discussing the rise of Silicon Valley and highlighting the many disparate factors that contributed to the rise of this high tech hub).

¹⁰⁹ See Institute for Local Self-Reliance, About, <http://www.ilsr.org/about-the-institute-for-local-self-reliance/>.

¹¹⁰ *Id.*

¹¹¹ See, e.g., CAPTIVE AUDIENCE at 257-258; Jim Spencer and Larry Oakes, *Broadband Battle Hits Rural Areas*, Aug. 13, 2012, Star Tribune, available at <http://www.startribune.com/business/166061226.html?refer=y> (“Public officials and some of their constituents argue that rural broadband is like rural electrification: It’s a lifeline for small-town America that the free market will not extend.”).

¹¹² The intermodal nature of the broadband market and the existence of intense cross-platform and cross-sector competition throughout the broadband marketplace undermine any claim that this service is a natural monopoly. See *supra*, section 2.1, for additional discussion.

¹¹³ 47 U.S.C. § 332 (c) (7) preserves local zoning authority subject to certain limitations, which are set forth in 47 U.S.C. § 332 (c) (7) (b) (i-v).

provided for the implementation of a federal framework to assure consistent application of this power and to provide certainty to service providers operating in multiple jurisdictions across the United States.¹¹⁴

In addition, the Act specifically empowers the states to “preempt” municipalities from engaging in the deployment of communications networks.¹¹⁵ Over the last few years, 19 states have enacted some form of municipal broadband legislation.¹¹⁶ Only a few have implemented an outright ban; most have adopted statutes that articulate a framework for ensuring that municipalities do not undertake these projects without taking a series of steps to ensure that these projects are pursued only as a last resort and in a manner that does not jeopardize local finances or consumer welfare.¹¹⁷ In several other states, governors and legislatures have signaled to municipalities that, instead of relying on GONs to plug gaps in availability, the preferred route for the state vis-à-vis broadband deployment is via public-private partnerships.¹¹⁸

Advocates of GONs have bemoaned the adoption of state-level restrictions on municipal broadband networks as anathema to notions of local self-reliance and counterproductive to national efforts around bolstering broadband availability and connectivity.¹¹⁹ But in light of the borderless nature of the broadband ecosystem and the increasing need for national regulatory approaches to IP-enabled services, the self-reliance rationale in favor of GONs is ill-suited for modern America.¹²⁰

4. CONCLUSION

Government-owned broadband networks are neither compelling nor wise investments of scarce public resources. When properly contextualized and evaluated using relevant data and widely accepted economic principles, the many rationales in favor of such undertakings are unconvincing. Nonetheless, municipalities are well positioned to play limited but important roles in the broadband space.

On the supply-side, municipalities should resist pursuing GONs and instead seek to serve as hubs for channeling funding and forging public-private partnerships with experts in the private and nonprofit sectors.¹²¹ Indeed, the most cost-effective way to bridge broadband availability

¹¹⁴ See *In the Matter of Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance*, Declaratory Ruling, 24 FCC Rcd 13994 (2009), *aff'd* *City of Arlington v. FCC*, 668 F.3d 229 (5th Cir. 2012).

¹¹⁵ See *Nixon v. Mo. Mun. League*, 541 U.S. 125 (2004) (upholding this interpretation of the Telecommunications Act).

¹¹⁶ See *State Restrictions on Public Communications Initiatives (as of July 1, 2012)*, The Baller Herbst Law Group, available at <http://www.baller.com/pdfs/BallerHerbstStateBarriers%287-1-12%29.pdf> (documenting GONs-related laws in these states). See also Community Broadband Networks, Network Map, <http://muninetworks.org/communitymap> (providing an interactive map of state-level GONs laws).

¹¹⁷ See, e.g., *Rationalizing the Municipal Broadband Debate* at 79-80 (discussing several such laws).

¹¹⁸ See, e.g., *Broadband and the Empire State* at 27-28 (profiling such an approach in Maine).

¹¹⁹ See, e.g., Christopher Mitchell and Todd O'Boyle, *Why Communities Should Decide What Telecom Networks They Have*, Oct. 23, 2012, Forbes.com, available at <http://www.forbes.com/sites/ciocentral/2012/10/23/why-communities-should-decide-what-telecom-networks-they-have/> (arguing that “We need broadband policies that connect our homes, schools, and business to the 21st century economy, but we’re pursuing public policies that are putting us in a hole, helping private telecommunications providers and harming the public interest.”).

¹²⁰ *Regulatory Federalism in the Age of Broadband*.

¹²¹ See, e.g., *Broadband and the Empire State* at 27-29; *Hidden Problems* at 8-9.

gaps is to position substantial private investments of time, capital, and expertise as core animating features of public-private partnership focused on network expansion. There are also opportunities for municipalities to work with stakeholders in the private sector and policymakers at the state and federal levels to streamline processes for siting and managing rights-of-way – key infrastructure inputs for all broadband networks.

On the demand-side, local policymakers and government institutions could help to raise awareness of and demand for broadband services. Such demand aggregation activities are essential first steps to creating attractive economic incentives for private firms to build out networks to unserved areas.¹²² In addition, local government could work within existing social infrastructures to ensure that residents have ready access to digital literacy training services and other such programs aimed at assuring equal opportunity to harness the transformative power of broadband.¹²³ Finally, municipalities are uniquely suited to work with counterparts in the private and nonprofit sectors to gather the type of data needed to tailor strategies for bringing networks to unserved areas.¹²⁴

These types of activities align with the more optimistic – and data-driven – narrative about broadband in the United States. Municipalities are not the last, best hope for bolstering high-speed Internet connectivity because the vast majority of Americans are benefitting from robust private sector competition among firms throughout the ever-evolving broadband ecosystem. In the rare instances where there is a clear market failure (i.e., a truly unserved part of the country), there is an opportunity for meaningful conversations about how best to bring broadband to that area. *But broad intervention in the market via a GON threatens to undermine the very market forces that have generated significant consumer welfare gains over the last decade.* In sum, local government can and should play key roles in the broadband space, but building, owning, and managing a GON is not one of them.

¹²² *Broadband and the Empire State* at 29-31.

¹²³ *Id.* at 29.

¹²⁴ *Id.* See also Charles M. Davidson, Michael J. Santorelli, and Tom Kamber, *Toward an Inclusive Measure of Broadband Adoption*, 6 *International Journal of Communication* 2555 (2012) (identifying this type of data and discussing how it could be used for these purposes).



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