Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of Acceleration of Broadband Deployment Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting	WC Docket No. 11-59

COMMENTS OF THE NATIONAL LEAGUE OF CITIES, THE NATIONAL ASSOCIATION OF COUNTIES, THE UNITED STATES CONFERENCE OF MAYORS, THE INTERNATIONAL MUNICIPAL LAWYERS ASSOCIATION, THE NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS, THE GOVERNMENT FINANCE OFFICERS ASSOCIATION, THE AMERICAN PUBLIC WORKS ASSOCIATION, AND THE INTERNATIONAL CITY/COUNTY MANAGEMENT ASSOCIATION

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SUMMARY

For local governments across the country, increasing broadband deployment and adoption is a priority. Local governments recognize that broadband can make their communities more competitive, trigger economic development, and improve the delivery of government services. For this reason, local governments have developed policies to encourage rapid broadband deployment and adoption across their communities. When industry has ignored calls for broadband deployment, many communities have constructed their own systems to provide the services their first responders, schools, libraries, businesses, and residents want and need.

Yet broadband cannot be local governments' only goal. Local governments also have a duty to advance their citizens' well-being, and to ensure that local property—central to a community's character, welfare, and daily life—is sensibly protected, shared, and developed. For decades, local governments have crafted and employed practices that allow a range of competing industries to use this local property for the benefit of the community. These practices have proven to be a remarkable success. Among other things, local build-out requirements have expanded broadband deployment by ensuring that advanced communications services stretch across entire communities, and local zoning codes have allowed for explosive growth in the wireless industry.

In its Notice of Inquiry ("NOI"), however, the Commission seems to imply that these local practices are thwarting the very broadband deployment that local governments so desire. We address this implication first—because it is simply wrong. As we discuss in Part II, local right-of-way practices have no impact on broadband deployment or adoption. As shown in the studies attached to these Comments, this is clear whether one examines the issue from an engineering or an economic standpoint. These findings are confirmed by other deployment and

adoption studies and by the Commission's own analyses of these issues. From every angle, the evidence points to the same conclusion: other factors drive broadband deployment and adoption.

Although local right-of-way practices do not deter broadband deployment or adoption, they do serve vital community interests in a way that a federal regime could never match. As we describe in Part III, local practices protect public health and safety; encourage economic development; facilitate the efficient use of public property; promote a sustainable community; and provide for fair compensation for the private use of public property. These local practices include distinct disciplines—the management of streets, the oversight of environmentally sensitive areas, the platting of new subdivisions, and the leasing public property—each rooted in its own history and expertise. These practices are refined through daily experience and public input, and they vary from State to State and community to community for good reason: each jurisdiction presents unique challenges based on its existing make-up, infrastructure, and policy choices. The issues facing Boston, Massachusetts, Lawrence, Kansas, and Sandy, Utah, are often not the same.

These local practices operate remarkably well. As we discuss in Part IV, local governments regularly adjust their practices to address new issues and technologies. Many communities have proactively streamlined their practices and actively worked with applicants to ensure an efficient, orderly, and timely process. And without these locally-specific practices, broadband deployment would be undermined as scarce community resources would be rendered unsustainable.

Instead of regulating these State and local practices, the Commission should work cooperatively with its State and local partners to achieve the goals we all share. In Part V, we urge the Commission to begin with three basic steps:

First, the Commission must recognize that federal regulation of these local practices would be inadequate, counterproductive, and expensive. For example, the Commission must rebuff industry entreaties to wade into the issue of how local governments obtain fair compensation for the private use of public rights-of-way. Setting federal rates for use of State and local property would complicate existing processes. As the Declaration of Garth Ashpaugh explains, requiring local governments to aggregate, allocate, and confirm costs would create an enormous regulatory burden. It would also be a job-killer, potentially costing providers and communities billions of dollars. This might force local governments to abandon or curtail activities designed to promote broadband adoption. It could also result in an immediate loss of revenues in many communities, causing real harm to local economies.

Second, the Commission should immediately reestablish the Intergovernmental Advisory Committee ("IAC") so that the voice of State, local, and tribal governments may be heard on Commission policies potentially affecting other levels of government. This will allow the Commission to use its resources cost-effectively to build upon and encourage local efforts, to work cooperatively and in partnership with local governments, and to establish effective and affordable voluntary programs (which could include a voluntary mediation program, and development of more accessible RF emissions information). The Commission, in addition, would be wise to re-visit Recommendation 6.6 in the National Broadband Plan, which called for a Right-of-Way Task Force that would bring together State, local, and tribal authorities that control rights-of-way. While the IAC could perform some of the functions of the Task Force, the Task Force promised to bring together a broader cross-section of expertise on a single issue.

Third, the Commission must focus on the real impediments to broadband deployment and adoption: affordability, digital literacy, service quality, and the difficulty of deploying in certain

rural areas. We encourage the Commission to address these issues immediately, and to support local government efforts to provide community broadband networks where the industry will not.

While we strongly urge the Commission to choose this collaborative route because it is the better policy choice, in Part VI, we conclude by addressing the Commission's lack of legal authority to regulate local right-of-way practices. Indeed, to do so would run afoul of the Communications Act and raise serious constitutional concerns.

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The National League of Cities ("NLC"), the National Association of Counties ("NACo"), the United States Conference of Mayors ("USCM"), the International Municipal Lawyers Association ("IMLA"), the National Association of Telecommunications Officers and Advisors ("NATOA"), the Government Finance Officers Association ("GFOA"), the American Public Works Association ("APWA"), and the International City/County Management Association ("ICMA") (collectively, the "National Associations") file these comments in response to the Notice of Inquiry ("NOI"), released April 7, 2011, in the above-entitled matter. Collectively, the National Associations represent most of the nation's local governments, and the departments and individuals within those communities responsible for right-of-way management, communications planning, and assessing the impact of local, State, and federal fiscal policy on

local governments and the economy.[1] Each has a substantial interest in the issues raised in the NOI.

I. INTRODUCTION

Local governments continue to seek increased broadband deployment and adoption in their communities. They understand that affordable broadband stimulates the economy and creates jobs,[2] and they appreciate that broadband's educational, health, and networking capabilities benefit consumers and make government more efficient and responsive. Local governments are so anxious to obtain these benefits that when private industry will not provide

[1] More information about the associations can be found in Exhibit A and on the organizations' respective websites. The NLC serves as a resource to and an advocate for the more than 19,000 cities, villages, and towns it represents. NACo represents county governments, and provides essential services to the nation's 3,068 counties. USCM is the official nonpartisan organization of cities with populations of 30,000 or more. There are 1,192 such cities in the country today. Each city is represented in the Conference by its chief elected official, the mayor. NATOA is a national trade association that promotes local government interests in communications, and serves as a resource for local officials as they seek to promote communications infrastructure development. IMLA is a non-profit, professional organization that serves as an international clearinghouse of legal information and cooperation on municipal legal matters; its over 3500 members include cities, counties, and special districts served through their attorneys. APWA, with 28,500 members, and ties to virtually every local government in the United States, provides a forum in which public works professionals (including those involved in right-of-way management) can exchange ideas, improve professional competency, and increase the performance of their agencies and companies. GFOA is the professional association of state, provincial and local finance officers in the United States and Canada. The GFOA has served the public finance profession since 1906 and continues to provide leadership to government finance professionals through research, education and the identification and promotion of best practices. Its more than 18,000 members are dedicated to the sound management of government financial resources. ICMA advances professional local government worldwide. Its 9,000 members—city, town, and county experts—make management decisions that affect millions of individuals living in thousands of communities, from small villages and towns to large metropolitan areas.

[2] The industry has often supported these local government efforts. *See, e.g.,* Letter from Alcatel-Lucent, American Public Power Association, Atlantic-Engineering, Fiber to the Home Council, Google, Intel, On Trac, Telecommunications Industry Association, Utilities Telecom Council to Representative Tillis and Senator Berger (Feb. 25, 2011), attached as Exhibit B.

broadband, they have provided it themselves.[3] As importantly, local governments promote broadband adoption by providing low and no-cost access to the Internet at schools, libraries, job centers, community centers, and elsewhere.

Local governments' desire for more—not less—broadband is not new. In the early days of cable franchising, local governments recognized that without reasonable build-out requirements, many residents would not receive service because operators would serve only a community's most economically desirable areas. These policies led to extensive build-out in communities across the country. The federal government, too, has recognized that private industry alone will not bring affordable broadband services to all parts of the country, especially to certain rural communities. As a result, federally funded Broadband Initiatives Program ("BIP") and Broadband Technology Opportunities Program ("BTOP") projects—many of them joint public-private partnerships—are now being constructed nationwide. But despite these efforts, many local governments—including many with minimal or no right-of-way requirements—find that obtaining broadband options for their communities remains a struggle.

Local governments are therefore puzzled that instead of addressing the real forces deterring broadband deployment and adoption in America's communities, the Commission has launched yet another proceeding—and one of startling scope—to examine local government property management.[4] While the Commission claims that the NOI "is not intended to prejudge

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[3] *See generally* C. Mitchell, *Publicly Owned Broadband Networks: Averting the Looming Broadband Monopoly*, *available at*: http://www.newrules.org/information/publications/publicly-owned-broadband-networks-averting-looming-broadband-monopoly

[4] Many of the NOI's questions dealing with the permitting process are similar to those the Commission asked two years ago when it reviewed wireless facilities siting. We question why the Commission is examining these local practices again when no one is asking for this; local governments have challenged the Commission's order and questioned its necessity. *See* Exhibit C (NATOA letters to Ruth Milkman dated May 25, 2010, and May 25, 2011). Furthermore, because the appeal of the Commission's order may address the Commission's authority, the

the existence of significant problems or the need for any particular remedial approach,"[5] local governments are concerned that the Commission may act hastily—a concern heightened by the Commission's statement that it may act on Technical Advisory Committee ("TAC") recommendations "independent of this proceeding."[6] This would be a serious mistake, with serious adverse consequences for broadband deployment and adoption, public safety, and the economy. At a time when the economic recovery is lagging in significant part because State and local governments are "bleeding jobs,"[7] it is critical that the federal government *not* directly or indirectly force State and local governments to divert resources to comply with a new regulatory regime—one that could cost billions of dollars to implement[8]—particularly when there is no prospect that it would yield meaningful benefits.

If the Commission genuinely has not pre-judged these issues, it should have little trouble concluding that its time and resources are better spent elsewhere. Right-of-way practices are a minimal factor in a broadband provider's deployment calculus. As we show below, there is no evidence that these practices have deterred broadband deployment or adoption, or that they will

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Commission should distinguish wireline and wireless issues, and consider the latter in a separate, more focused proceeding. *City of Arlington et al. v. FCC et al.*, No. 10-60039 (submitted for decision June 8, 2011).

[5] NOI ¶ 12 n.29.

[6] NOI ¶ 8 n.26. In fact, this statement led NLC, NACo, NATOA, and USCM to submit a joint letter asking the Commission to reserve taking any actions in this area until the completion of the NOI and only after receiving comment from the reauthorized Intergovernmental Advisory Committee ("IAC"). Letter from U.S. Conference of Mayors, National League of Cities, National Association of Counties, National Association of Telecommunications Officers and Advisors to Julius Genachowski (May 25, 2011) attached as Exhibit D.

[7] Bureau of Labor Statistics, U.S. Department of Labor, The Employment Situation—June 2011, *available at*: http://www.bls.gov/news.release/pdf/empsit.pdf; Reuters, *State and Local Governments Bleeding Jobs*, (July 8, 2011), *available at*: http://www.reuters.com/article/2011/07/08/us-usa-states-jobs-idUSTRE76768Q20110708

[8] Declaration of Garth T. Ashpaugh, attached at Exhibit E ("Ashpaugh Declaration") at ¶ 9.

do so in the future. While the industry at times claims otherwise, it also tells another story. For example, the wireless industry is the first to claim that nearly every area of our country has access to wireless services. When the Commission's recent broadband deployment report stated that approximately 26 million Americans lacked broadband access—mainly in rural areas—industry quickly challenged the conclusion. Commissioner Robert McDowell has remarked that "capital investment in fixed and mobile broadband deployment continues to be a tremendous success story" and has commented on the "rapid rise of 3G service, as well as the *historic levels of investment* in our nation's infrastructure."[9] Even AT&T touts the competition in the wireless industry and admits that there are currently five or more competitive wireless providers in 18 of the top 20 U.S. markets.[10] Obviously, local government right-of-way practices have not diminished this investment. And no provider has guaranteed that if these local practices were regulated, it would provide services at lower prices or in unserved areas.

While local right-of-way practices do not deter broadband deployment or adoption, they do serve critical interests in local communities. These practices allow local governments to manage their property, to promote the community's welfare, and to ensure that a scarce public resource, central to the everyday life of a community, can be protected, shared, and developed. The practices have been developed and studied over time, and local experts perfect them on a daily basis. And, during recent broadband deployment efforts, these practices have played a critical role in protecting local communities from careless practices.

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[9] Dissenting Statement of Commissioner Robert M. McDowell, *In re 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*, Seventh Broadband Progress Report and Order on Reconsideration, GN Docket No. 10-159, FCC 11-78 (May 20, 2011).

[10] D. Takahashi, *AT&T's Purchase of T-Mobile Will Test Antitrust Law*, Mobile Beat, available at http://venturebeat.com/2011/03/20/atts-purchase-of-t-mobile-will-test-antitrust-law/

Instead of re-visiting these fundamentally local matters, if the Commission seeks to take any action with respect to local right-of-way practices, it should start by activating and meeting with the Intergovernmental Advisory Committee ("IAC"). In 2009, the Commission authorized the IAC. But rather than moving quickly to activate it, the Commission has taken advice from the TAC—a committee with *no* local government participants—and required local governments to spend scarce resources to respond to open-ended NOI questions that contemplate Commission regulation. This is a step in the wrong direction. From 1997-2003, the Commission's Local and State Government Advisory Committee ("LSGAC") provided a forum that allowed the Commission and State, local, and tribal governments to develop effective deployment approaches. An activated IAC could similarly work with the Commission to develop cooperative and voluntary programs that will efficiently leverage the resources of State, local, and federal governments to secure broadband deployment. These could include, for example, voluntary mediation programs, dissemination of additional information about RF emissions, and development of databases that ease information sharing. The Commission should also re-visit the National Broadband Plan's recommendation to create a committee of experts from State, local, and tribal entities that could discuss right-of-way management and compensation practices, and recommend appropriate steps in light of the varied interests involved. This Task Force could work with the IAC and bring together a broader cross-section of expertise on these issues.

Federal regulation would not only be unlawful, but it would prevent creative approaches to deployment and impose substantial unintended costs, to little effect. Instead, the Commission should focus on actions that will genuinely "reduce the costs and time required for broadband deployment."[11] The Commission has done little to address broadband adoption by examining

[11] NOI ¶ 2.

digital literacy, low broadband service quality, affordability, and lack of access to computers.[12] Nor has the Commission examined industry-backed legislative initiatives that have severely curtailed local governments' ability to provide broadband services in communities that private providers have no economic incentive to serve; the most recent example being the so-called Time Warner bill in North Carolina.[13] And the Commission has not completed important work to facilitate broadband deployment in rural areas. The National Associations stand ready to work with the Commission on these efforts.

With the foregoing in mind, we address the broad policy issues raised in the NOI, and the Commission's legal authority to act on these matters.

II. LOCAL RIGHT-OF-WAY PRACTICES HAVE NOT DETERRED BROADBAND DEPLOYMENT OR ADOPTION.

The Commission seeks to determine "how rights-of-way and wireless facilities siting decisions influence build-out and adoption of broadband and other communications services," and asks for comment on the benefits and costs of potential Commission actions.[14] The evidence shows that these local practices have not deterred broadband deployment and adoption at all.

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[12] *In re 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*, Seventh Broadband Progress Report and Order on Reconsideration, GN Docket No. 10-159, FCC 11-78 at ¶¶ 68-76 (May 20, 2011) ("2011 Section 706 Report").

[13] N.C. House Bill 129; S.L. 2011-84 (effective 5/21/2011).

[14] NOI ¶¶ 12, 36. This section also responds to NOI ¶ 16 (reasonableness of market-based fees) and ¶ 20 (recovery of fees via geographically averaged rates).

A. In a Broadband Provider's Deployment Calculus, Right-of-Way Practices Are a Minimal Factor.

Right-of-way practices are generally not a significant factor in a broadband provider's deployment calculus.[15] Local right-of-way practices add little to overall construction costs, and can reduce costs to the extent that these practices ease coordination or prevent property damage. The practices also generally do not significantly delay deployment.[16] Claims to the contrary appear to lack a sound basis. For example, some providers point to the National Broadband Plan's statement that "[c]ollectively, the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% of the cost of fiber optic deployment."[17] This 20% figure grossly overstates reality.[18] Even taken on its own, the figure combines the costs of obtaining local government permits with the costs associated with obtaining access to utility poles (including the make-ready work, which is properly treated as an ordinary cost of construction).[19] In addition, it includes operational, post-construction costs such as pole rental fees and franchise fees. These are not deployment costs, but ordinary operating expenses.[20] Moreover, the 20% figure is not consistent with general field experience.[21]

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[15] This is true whether the issue is examined from an engineering or economic viewpoint. Columbia Telecommunications Corporation, *An Engineering Analysis of Public Rights-of-Way Processes in the Context of Network Design and Construction* (July 13, 2011) ("CTC Report"), attached as Exhibit F; ECONorthwest, *Effect on Broadband Deployment of Local Government Right of Way Fees and Practices* (June 18, 2011), attached as Exhibit G ("ECONorthwest Report").

[16] By their nature, some issues require additional time to resolve, such as a case in which a provider seeks to place facilities in an environmentally sensitive area that requires clearances from State or federal agencies. CTC Report at 4.

[17] National Broadband Plan, § 6.1.

[18] *See* Coalition of Texas Cities Comments, WC Docket No. 11-59; CTC Report at 14.

[19] CTC Report at 13-14.

[20] *Dallas v. FCC*, 118 F.3d 393 (5th Cir. 1997). To evaluate the relevance of these operating expenses, one would have to examine the basic operating expenses that other businesses incur in

B. Economic Data Analysis Reveals No Relationship Between Right-of-Way Charges and Broadband Deployment or Adoption.

The data show that other factors—not right-of-way practices or charges—drive deployment and adoption. This should not be a surprise to the Commission, which has repeatedly recognized that the major problem is the lack of broadband deployment in rural areas.[22] As the Commission recently put it: "72.5 percent of the 26.2 million Americans that still lack access to 3 Mbps/768 kbps or faster fixed broadband services reside in rural areas, even though only 21.7 percent of all Americans reside in rural areas."[23] But compared to urban areas, rural areas often have greatly reduced right-of way management practices and charges, if they have such practices and charges at all.[24] Other barriers are summarized in the ECONorthwest Report.[25] The Commission has also recognized that a provider's own business strategies—and its efforts to protect revenue streams—may hinder broadband investment.[26] The critical point is that the barriers to deployment and adoption cannot be overcome by regulating local right-of-way fees or practices. Indeed, attempts to regulate will be *ineffective* and costly.[27]

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connection with their operations. A McDonalds franchisee, for example, may pay its corporate parent both a 4% of gross revenues as a service fee, and a rental charge for property is uses that may be a percentage of gross revenues. http://www.aboutmcdonalds.com/mcd/franchising/us_franchising/purchasing_your_franchise/new_restaurants.html

[21] CTC Report at 12.

[22] *See, e.g.*, 2011 Section 706 Report at ¶ 51 (May 20, 2011) (noting that "unserved Americans live in areas that are more rural and less densely populated").

[23] *Bringing Broadband to Rural America: Update to Report on a Rural Broadband Strategy*, GN Docket No. 11-16 at ¶ 10 (June 17, 2011).

[24] CTC Report at 4-5.

[25] ECONorthwest Report at 8-11.

[26] *In re Comcast Corp., GE Co. & NBC Universal, Inc.*, 26 FCC Rcd 4238, 4267 (F.C.C. 2011

[27] ECONorthwest Report at 23.

1. Right-of-Way Charges Do Not Deter Broadband Deployment or Adoption In Communities Where Such Charges Are Imposed.

Economic analysis confirms that there is no relationship between local right-of-way charges and broadband deployment or adoption. The attached econometric analysis by ECONorthwest demonstrates this conclusion in several ways. Particularly illustrative is the analysis of broadband deployment in Oregon and Colorado.

Oregon and Colorado have very different approaches to local right-of-way charges. Colorado prohibits local governments from charging telephone companies rent for use of rights-of-way, and it limits police power fees to recovering those "costs directly incurred by the political subdivision in providing services relating to the granting or administration of [right-of-way] permits"—essentially, fees are limited to the cost of processing a permit.[28] Cable service providers may be charged franchise fees equal to 5% of gross revenues derived from the operation of their systems to provide video services.[29] In contrast, Oregon allows municipalities to franchise telecommunications companies, and to charge a gross revenues-based fee for right-of-way use.[30] Oregon cities also require cable service providers to pay a 5% franchise fee.[31]

Because Colorado and Oregon share similar demographics, factors such as race, education, and poverty—known indicators of broadband deployment and adoption—cannot explain these States' differing broadband deployment levels.[32] Both States have a large Caucasian majority (63.8% Colorado, 73.2% Oregon), which far surpasses the national

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[28] Colo. Rev. Stat. § 38-5.5-107(1)(b).

[29] 47 U.S.C. § 542(b).

[30] Or. Rev. Stat. § 221.515.

[31] 47 U.S.C. § 542(b).

[32] Except where otherwise noted, Oregon and Colorado data are from the National Broadband Map:http://www.broadbandmap.gov/summarize/state/colorado; http://www.broadbandmap.gov/summarize/state/oregon

distribution (58.9%). Both have similar high school educational attainment (88.8% Colorado, 88.2% Oregon), and both States' poverty levels (12.1% Colorado, 13.6% Oregon) are also below the national average (13.9%). Both States are also geographically similar, sharing relatively mountainous terrain. According to 2000 U.S. Census data, population density was 35.6 persons per square mile in Oregon, and 41.5 persons per square mile in Colorado.[33] If anything, this increased density suggests that broadband deployment would be *higher* in Colorado.

It is not. In fact, although Oregon does not limit local right-of-way charges as Colorado does, broadband deployment in Oregon surpasses deployment in Colorado.[34] For example, according to the National Broadband Map:

- 53.9% of Oregon's population has access to four or more wireline providers, while only 4% of Colorado's population in CO has access to the same;
- 58.5% of Oregon's population has access to seven or more wireless providers, while only 3.4% has access to the same in Colorado;
- While DSL penetration in both Colorado and Oregon is high, 33.7% of Oregon's population but a mere 1.7% of Colorado's has fiber. In fact, the percentage of the population with fiber in Oregon—a State that arguably allows local governments the greatest freedom in the nation to assess right-of-way fees—is substantially higher than the national average (14.5%); and
- Broadband speeds in both States are comparable, with more than 99% of the population in both States accessing download speeds greater than .768 Mbps, and upload speeds greater than .2 Mbps; and the same accessing download speeds greater than 3 Mbps,[35] and upload speeds greater than 768 Mbps.[36]

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[33] Population, Housing Units, Area, and Density: 2000 Data Set: Census 2000 Summary File 1 (SF 1) *available at*: http://factfinder.census.gov/servlet/GCTTable?_bm=y&-ds_name=DEC_2000_SF1_U&-CONTEXT=gct&-mt_name=DEC_2000_SF1_U_GCTPH1_US9&-redoLog=false&-_caller=geoselect&-geo_id=&-format=US-9|US-9S&-_lang=en

[34] ECONorthwest Report at 7.

[35] http://www.broadbandmap.gov/rank/all/state/percent-population/within-nation/speed-download-greater-than-3mbps/ascending/

Oregon-specific data further shows that local fees have had no effect on broadband deployment. Portland charges a gross revenues-based fee to cable operators and other communications companies that use the rights-of-way. Yet Portland has significantly more competition than other, similar-sized communities that do not regulate or charge for right-of-way use.[37]

Data from other States also support this conclusion. Like Oregon, Rhode Island permits telecommunications right-of-ways fees of up to 3% of gross revenues.[38] In Oregon and Rhode Island, 70.1% of each State's consumers have access to broadband from three or more wireline broadband providers. By contrast, in Alaska—where right-of-way charges are limited to the "actual cost to the municipality of the utility's use of the public way and of administering the permit program"[39]—*no consumer* has access to three wireline broadband providers.[40] In fact, comparing consumer access to three or more wireline broadband providers nationally,[41] Oregon ranks sixth (70.1%), well above numerous States that limit right-of-way fees including Kansas (1.25%),[42] Nebraska (8.65%),[43] California (10.4%),[44] Minnesota (13.19%),[45] Iowa (38.27%),[46]

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[36] http://www.broadbandmap.gov/rank/all/state/percent-population/within-nation/speed-upload-greater-than-768kbps/ascending/

[37] Public Utility Commission of Oregon, *Local Telecommunication Competition Survey*, Economic Research and Financial Analysis Division, at 31 (December 2010) (noting that "[c]ompetitive entry is highest in the Portland Metropolitan Region."); Expert Report of Alan Pearce, Ph.D., *Time Warner Telecom of Oregon, LLC v. City of Portland*, CV 04-1393-MO (D. Or. Sept. 1, 2005), attached as Exhibit A to Reply Comments of NATOA and IMLA, Docket No. 09-153 (Nov. 5, 2009).

[38] R.I. Gen. Laws § 39-17-3.

[39] Alaska Stat. § 42.05.251.

[40] http://www.broadbandmap.gov/summarize/state/alaska

[41] http://www.broadbandmap.gov/rank/all/state/percent-population/within-nation/number-of-wireline-service-providers-greater-than-3/ascending/

[42] Kan. Stat. Ann. § 17-1902(n).

and Missouri (39.37%).[47] Likewise, there is no evidence that broadband deployment is higher in States that have limited cable franchise fees.[48] Indeed, ECONorthwest performed a statistical analysis using available data, and concluded that there was no relationship between broadband deployment and right-of-way charges.

Right-of-way fees have also not impeded broadband adoption. The Commission recently explained that consumers do not adopt broadband due to "barriers such as lack of affordability, lack of digital literacy, and a perception that the Internet is not relevant or useful to them."[49] And while the industry might suggest that higher right-of-way fees affect adoption by making broadband less affordable, the evidence does not support this. The National Broadband Map shows that regardless of the right-of-way charges permitted in each State, adoption rates are similar, and in some cases significantly higher in States that permit higher right-of-way charges. Oregon has a broadband adoption rate of 70%, while Missouri, which generally limits fees to costs, has an adoption rate of 57%.[50] As the ECONorthwest Report indicates, this is not surprising: the gap between what non-adopters are willing to pay for broadband service and what providers charge cannot be overcome by regulating right-of-way charges. This is so even if one

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[43] Neb. Rev. Stat. Ann. § 86-704 (4)(a).

[44] Cal. Gov't Code § 50030.

[45] Minn. Stat. § 237.163(6)(b).

[46] Iowa Code § 480A.3.

[47] Mo. Rev. Stat. § 67.1840.2(1).

[48] For example, Kentucky has the lowest franchise fees (2.4%) of any State, Ky. Rev. Stat. Ann. § 136.616(2)(a), but in the state-by-state comparison of the percentage of consumers with access to three or more wireline broadband providers, it ranks 45th.

[49] 2011 Section 706 Report at ¶ 2.

[50] Economics and Statistics Administrations & National Telecommunications and Information Administration, *Exploring the Digital Nation: Home Broadband Internet Adoption in the United States,* at § 8.3 (November 2010).

assumes providers will pass on 100% of cost savings to attract low-end non-adopters—an assumption that is itself unsupported.[51]

Regulating right-of-way fees is not likely to spur deployment or adoption in any case. A local government is not distributing right-of-way fees to shareholders; it is defraying public expenses incurred in providing services to the public. If local government revenues were cut, the local government would either need to decrease government services or collect additional fees from the public. Reducing local government services could harm deployment and adoption directly, by minimizing the resources available to manage the permitting process, or by forcing cuts in local efforts that support broadband adoption such as library programs providing free Internet access. It could harm deployment indirectly, by forcing cuts in employment, or cutbacks in public safety.[52] Moreover, it subsidizes those who choose to deploy using rights-of-way, while wireless providers locating facilities on private property and using federal spectrum are required to pay for the property that they use.

2. Right-of-Way Charges In Urban Areas Do Not Deter Broadband Deployment Elsewhere.

The Commission requests information regarding the impact of fees charged in one area on customers in others areas.[53] There is no reason to suppose that there is an impact. In the first place, this would assume that companies cannot recover or are not recovering local fees from customers in the areas that impose them. In fact, cable operators (one significant group of broadband providers) routinely include charges such as franchise fees on customer bills, and

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[51] ECONorthwest Report at 11-12.

[52] Local governments are already facing the effects of reduced budgets. Among other things, these budget cuts impact public safety. http://www.npr.org/2011/06/30/137518416/newark-budget-cuts-mean-less-police-presence

[53] NOI ¶ 20.

other providers routinely advertise services at a price that excludes fees and taxes, and then include those fees on customer bills.[54]

The argument also assumes that: (a) in areas that manage or charge fees for right-of-way use, communications companies are earning less than competitive returns; or (b) if communications companies were granted free or unregulated access to rights-of-way in more profitable areas (and earned greater than competitive returns), they would subsidize deployment in rural areas. If the former were true, areas that charge fees for use of rights-of-way would have little competition. That is clearly not the case.[55] The latter defies basic economic theory, as the ECONorthwest Report explains.[56] Firms allocate capital to investments that generate the highest returns. A private company would not voluntarily take savings from right-of-way fees (if any) and fund less profitable deployment. If local governments in the most profitable markets (dense, more urban areas) were required to reduce fees or were blocked from managing the rights-of-way, providers would either return money to shareholders, or focus more dollars in what would now be even more profitable areas. Absent a regulatory requirement, a provider simply has no incentive to devote resources to an unprofitable market.[57]

3. Local Right-of-Way Practices Are Unlikely To Begin To Deter Broadband Deployment or Adoption in the Future.

The Commission asks whether there are specific circumstances where charges are more likely to be unreasonable—and particularly whether a rights-of-way holder (a local jurisdiction) is in a position to exercise "market power" in establishing charges once a provider has installed

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[54] *See, e.g.*, http://smallbusiness.verizon.com/ (advertising service price, and noting price does not include taxes and fees). *See also* ECONorthwest Report at 14.

[55] *See, e.g.*, n.37 *supra* (discussing Portland, Oregon).

[56] ECONorthwest Report at 15-17.

[57] ECONorthwest Report at 16.

facilities.[58] The answer is "no." Typically, in local jurisdictions that issue franchises, providers enter under long-term contracts that enable them to recover costs. Local governments are anxious to welcome broadband providers to their communities, and they also have different goals, responsibilities, and functions than corporate entities. Local governments hold resources—including right-of-way resources—in trust for citizens and businesses. For example, local governments manage rights-of-way not to maximize profits or fiscal surpluses, but to promote economic development. This disciplines pricing. If citizens feel that elected officials have mismanaged their responsibilities regarding right-of-way access or other resources, they can recall or not reelect these officials. Moreover, the proposition that a local government would exercise monopoly power and charge supra-competitive rates for right-of-way access—even if it had such monopoly power—is flawed. Local governments compete vigorously with one another to attract and encourage deployment of advanced and reliable utilities that will in turn attract and support new industrial, commercial, and residential development. This is a strong incentive not to overprice right-of-way access.[59] In some cases where companies are claiming that they are being overcharged, the charges were proposed by the companies themselves, under contracts that they helped to draft.[60]

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[58] NOI ¶ 19.

[59] ECONorthwest Report at 22.

[60] *See, e.g., Petition by Level 3 Communications LLC,* WC Docket No. 09-153. In that case, the New York State Thruway Authority entered into a contract that provided access to NYSTA rights of way and facilities and allowed providers to make use of those facilities, including the right to enter and exit the property at specified points. Several providers, including Level 3's predecessor, agreed to that contract. Subsequent to entering into that contract, Level 3 asked for additional exit points—unique treatment—and the NYSTA agreed to amend the contract after negotiations on terms similar to those proposed by Level 3, which reflected the value of the special rights sought, and the nature of the limited access roadway. Level 3 now asks the FCC to upset the agreement many years after it was executed. But doing so will only discourage future innovative arrangements for use of government property.

III. LOCAL RIGHT-OF-WAY PRACTICES ADVANCE IMPORTANT LOCAL INTERESTS.

Not only do local right-of-way and wireless facility siting requirements *not* deter broadband deployment or adoption, they also play a vital role in local communities. The Commission seeks a range of information about these procedures.[61] We note that the NOI uses the term "right-of-way practices"[62] in a way that captures a wide range of distinct activities, including management of streets, subdivision planning, management of recreational tracts, franchising, and more. Even within any one community, these activities are typically handled separately because each serves different purposes, involves a distinct body of expertise, and raises different property law issues. As discussed, *infra*, federal right-of-way rules designed to supersede these local practices would likely only complicate processes that currently work well.

A. Local Right-of-Way Practices Serve Important Community Interests.

The Commission asks for the "policy goals and other objectives" underlying local right-of-way practices.[63] These "practices" serve a wide range of interests depending on the community and the property at issue. When a local governments franchises, licenses, or leases its own property, in addition to its interests in promoting the general welfare, it has interests similar to those of any property owner: to recover fair value for the property's occupation and use, and to ensure that neither the local government nor its property is harmed. Rents may be recovered in cash or through other conditions. For example, a local government and a wireless provider might

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[61] This section responds to the Commission's questions at NOI ¶¶ 13-26.

[62] NOI ¶ 5 n.11 (noting that "[f]or purposes of this proceeding, the term 'right of way practices' includes all procedural and administrative requirements associated with access to and use of rights of way or wireless facilities siting."). While we use this phrase for shorthand purposes and for consistency with the NOI, this phrase is actually a misnomer because "wireless facilities siting" need not involve right-of-way use. As noted in Section III.B, the Commission appears to be combining distinct activities.

[63] NOI ¶ 22.

agree to a lower rent for a City-owned tower on the condition that the provider improve the structure as it installs its facilities. Both may benefit from the arrangement. In addition, subject to any legal limits on its authority, the government seeks to ensure that the grant to a particular provider does not endanger existing property uses, create new hazards, result in the discriminatory provision of services, and is otherwise consistent with the public interest. In cable franchises, for example, anti-redlining provisions are mandatory.

When a local government exercises its police powers to protect the community, it seeks to serve slightly different purposes. The overriding goal is to protect the public health, safety, and general welfare. The City of Santa Monica, California, explained how general police power goals translate to right-of-way management when it adopted a right-of-way management ordinance in 2004. The purposes include:

- To preserve the structural integrity, reliability, performance, safety, ease of maintenance and aesthetic quality of the City's rights-of-way, including preserving view corridors, discouraging visual blight and clutter;
- To address the long-term management of the public rights-of-way;
- To address concerns about the City's public work contractors or others digging in the right-of-way encountering unknown utilities and the potential for damage to those facilities;
- To ensure that the manner in which the right-of-way is accessed minimizes disruption to the community, including vehicular traffic, pedestrian flow, public transit, on-street parking and business uses;
- To ensure utilities (including fiber-optic and wireless telecommunications companies) competitively neutral and non-discriminatory access to the right-of-way; and
- To ensure compliance with federal, state, county and local laws allowing access to the right-of-way.[64]

[64] Dave Britton, P.E., *Do the Right Thing in the Public Right-of-Way*, APWA Reporter at 66 (Sept. 2005). Of course, achieving all of these goals for the benefit of the community often requires a local government to expend considerable resources. A local government often imposes

Similar interests underlie the zoning and subdivision planning processes, although these activities must also be conducted in a manner consistent with overall land use policies that define where and how development will occur across the community.

For all of these practices, local governments have an interest in ensuring that persons and property are protected from harm, that environmental and other interests are respected, and that there is minimum disruption to other, critical activities. To grasp the significance of the problems that can arise, one need look no further than this country's last major wireline deployment: Verizon's FIOS build-out. During that project—a project now frozen despite many local governments' pleas that the company serve their communities[65]—newspaper headlines across the country described massive disruption to America's communities:

A Bumpy Road for Verizon's Fiber Optic Upgrades; Billion-Dollar Project Has Caused Troubles, Including Fire in the Richmond Area[66]

Verizon In Deep Over Dig[67]

Verizon Work Cuts 200 Pipes[68]

Company Cutting Utility Lines Far Too Often, Chino Says[69]

Fiber Optic Web-Lines, High-Tech Headaches[70]

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user fees pursuant to its police powers to recover some of the costs associated with right-of-way management.

[65] *Will Verizon's FIOS Deployment Freeze Ever Thaw? Many Cities Still Waiting on Next Fios Deployment Phase*, available at: http://www.dslreports.com/shownews/Is-Verizons-FiOS-Deployment-Freeze-Thawing-112904?nocomment=1

[66] Stephanie Stoughton, Richmond Times Dispatch, July 6, 2006, at C-1.

[67] Jill King Greenwood, Tampa Tribune, Nov. 28, 2004, at 1 ("crews working for Verizon have broken hundreds of water-, sewer, phone, gas, cable television and electric lines since August").

[68] Doug Sword, Sarasota Herald-Tribune, Feb. 8, 2007 (describing nearly 200 water and sewer lines cut during the first months of deployment).

[69] L.C. Greene, *Company Cutting Utility Lines Far Too Often, Chino Says*, Inland Valley Daily Bulletin (Ontario, CA), Oct. 6, 2005.

[70] The Washington Post, Dec. 30, 2004.

As Verizon Expands, So Do Mistakes by Contractors; Utilities Damaged by Installation of Fiber Optic Lines[71]

The stories beneath these headlines told of widespread and serious impacts on local communities:

> [C]rews working for Verizon have broken hundreds of water-, sewer, phone, gas, cable television and electric lines since August. The mishaps have closed roads, caused traffic jams and interrupted service for thousands of customers. Some homeowners have watched sewage or water spew into their front yards. Others are left with ripped-up lawns and broken driveways. Still others have been forced to boil their water as a health precaution. In other parts of the state and across the country, excavation mistakes have been far more disastrous: One crew disrupted 911 communications systems in Ohio. Natural gas line breaks led to explosions at homes in Georgia and Pennsylvania. Workers in Minnesota sliced through a line that carried vital data from Northwest Airlines computers to aircrafts preparing to take off.[72]

Facing this massive disruption, local governments stepped in to protect the community—often at considerable cost. In some cases, local governments issued stop work orders until Verizon improved its practices:

> [A] contractor working for Verizon punctured a sewer line, opening a hole in the intersection of North Lakeview Drive and North Dale Mabry Highway. The crater nearly swallowed a car. A contractor hired by the county was trying to repair that break when a water line was breached, and 2,000 gallons of water per minute poured onto the roadway for hours. That spurred county Public Works officials to issue a stop-work order to Verizon and its 10 contractors and nearly 2,000 workers on Tuesday. The order mandates that Verizon cease work on the fiber-optic upgrade project in unincorporated areas of the county until new procedures are in place to fix the problems.[73]

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[71] The Washington Post, Dec. 30, 2004 (noting that "contractors laying fiber-optic lines for the company have caused power, cable and water outages in at least 72 sites across Montgomery County, according to companies whose services were disrupted by the work").

[72] Tampa Tribune, Nov. 28, 2004, at 1.

[73] Jill King Greenwood, *Verizon Contractors Show Alternative Methods To Bury Lines*, Tampa Tribune, Nov. 19, 2004, at Metro p.3.

In other cases, communications companies urged local governments to step in to limit the disruption.[74] Other local governments required Verizon to develop new, less disruptive techniques for burying its cables.[75] In other areas, Verizon's practices only improved after local officials required monthly performance meetings and limited the number of Verizon work sites.[76] Other communities required Verizon to assign inspectors to every construction site, rather than have a single inspector oversee several sites.[77] These efforts forced local governments to hire additional staff.[78]

B. Local Governments Have Adopted a Variety of Local Right-of-Way Practices.

The Commission asks for "factual data to help the Commission understand existing charges and practices,"[79] and seeks a wide range of data regarding the nature of those practices, the charges associated with particular activities, and the effect of those practices on deployment.[80] As noted, the NOI conflates a wide variety of activities and disciplines that are

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[74] Matt Griswold, *Bright House Asks County To Block Verizon*, Bradenton Herald, Apr. 8, 2005, at Business 1A.

[75] *Id.*

[76] Jeff Horseman, *Problems on Verizon Cable Work Decreasing*, The Capital, Nov. 20, 2005, at D1; Stephanie Stoughton, *A Bumpy Road for Verizon's Fiber Optic Upgrades; Billion-Dollar Project Has Caused Troubles, Including Fire in the Richmond Area*, Richmond Times Dispatch, July 6, 2006, at C-1.

[77] L.C. Greene, *Company Cutting Utility Lines Far Too Often, Chino Says*, Inland Valley Daily Bulletin (Ontario, CA), Oct. 6, 2005.

[78] Stephanie Stoughton, *A Bumpy Road for Verizon's Fiber Optic Upgrades; Billion-Dollar Project Has Caused Troubles, Including Fire in the Richmond Area*, Richmond Times Dispatch, July 6, 2006, at C-1. Anne Arundel County, Maryland, hired three additional inspectors. Hillsborough County, Florida, hired 10 temporary inspectors at a cost of approximately $500,000 a year, and a consulting firm for $150,000 more. *Id.*

[79] NOI ¶ 17; *see also* NOI ¶ 12 (seeking "a more complete understanding of these areas").

[80] The Commission asks how local governments weigh the various interests involved in developing policies for access to and management of the rights-of-way and other property. NOI ¶ 22. They do so by, among other things, meeting regularly with affected constituents (including

typically handled separately.[81] Given the limited time the Commission has provided for comment on these important issues, what follows is a necessarily simplified discussion of these "rights-of-way practices." Such practices could include:

1. Subdivision development

Through the platting process, local governments use their police powers to oversee new developments and subdivisions, and to incorporate these developments into their communities. The platting process ensures that these developments are constructed safely, and it advances the community's orderly growth. As part of this process, State and local governments often require the dedication and construction of utility easements, streets, and public rights-of-way.[82] Generally, before the streets are dedicated or placed under local government control and management, developers and utilities reach agreement as to where utilities will be placed. Local governments then approve the final plats. This process is related to, but in critical respects distinct from, other right-of-way permitting and zoning processes. It necessarily is more time-consuming, as it involves planning for the coordinated installation and construction of all infrastructure. Should the Commission wish to investigate subdivision development, it will need

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public utilities and quasi-utilities); sharing information through professional associations; holding public hearings; conducting studies; and reviewing and adjusting other jurisdictions' practices, in light of overall community goals established by elected officials. But the answer depends on the activity and the affected property. Local practices may be affected by land use goals (many communities have long-term land use plans) and specific redevelopment projects. For example, communities may seek to create historical or pedestrian districts to revitalize a downtown. Work in such areas may need to meet different requirements than work elsewhere. Contractual restrictions associated with right-of-way and easement acquisition may also affect choices.

[81] Among others, the University of Maryland offers graduate courses in civil engineering and right-of-way management, including a course on managing utility cuts. http://www.mdt2center.umd.edu/courses/course-catalog.html APWA's website contains dozens of papers and articles regarding right-of-way management, which we incorporate by reference.

[82] *See, e.g.*, *City of Corpus Christi v. Unitarian Church*, 436 S.W. 2d 923, 930 (Tex. Civ. App—Corpus Christi 1968, writ ref'd n.r.e).

to examine State and local subdivision laws carefully.[83] Interestingly, many local governments find that developers are attempting to encourage installation of fiber optic facilities, but are unable to do so because—even where the developer agrees to pay for all or a significant portion of deployment—no incumbent utility is willing to build.[84]

2. Franchising or licensing of streets

State and local governments have property rights in a wide variety of rights-of-way, including general access streets dedicated to public use and transit. As a result, a third-party communications company that seeks to occupy and use such property cannot do so without obtaining the legal right to use that property. This right may be conferred in the form of a license, a franchise, or other appropriate instrument, depending on the property at issue and the rights sought. As noted above, these instruments will generally be subject to compensatory and non-compensatory conditions that are designed to protect the public and the interest of government as property owner.

In exchange for granting this property right, the Supreme Court has long recognized that local governments have the right to require "compensation, which is in the nature of rental":

> [T]his use is an absolute, permanent and exclusive appropriation of that space in the streets which is occupied by the telegraph poles. To that extent it is a use different in kind and extent from that enjoyed by the general public. Now, when there is this permanent

[83] For examples of platting processes, *see*: Arlington County, Virginia (http://www.arlingtonva.us/departments/CountyBoard/CountyCode/file74521.pdf); New Braunfels, Texas (http://www.nbtexas.org/index.aspx?nid=238); City of Fort Worth, Texas (http://www.fortworthgov.com/planninganddevelopment/dev.aspx?id=57634), Broward County, Florida (http://www.broward.org/Regulation/Development/Pages/platting.aspx); Dillingham, Alaska (http://www.ci.dillingham.ak.us/index.asp?Type=B_BASIC&SEC=%7BF5063F37-4478-4329-A8AF-1C7273FE77D8%7D); Casper, Wyoming (http://www.casperwy.gov/PlanningConstructionandHousing/PlanningandZoning/PlanningDivision/PlattingReplattingLand/tabid/441/Default.aspx); and St. Paul, Minnesota (http://www.stpaul.gov/index.aspx?NID=1901).

[84] This was the experience of developers in Albuquerque, New Mexico, and Arvada, Colorado.

> and exclusive appropriation of a part of the highway, is there in the nature of things anything to inhibit the public from exacting rental for the space thus occupied? Obviously not. Suppose a municipality permits one to occupy space in a public park, for the erection of a booth in which to sell fruit and other articles; who would question the right of the city to charge for the use of the ground thus occupied, or call such charge a tax, or anything else except rental? So, in like manner, while permission to a telegraph company to occupy the streets is not technically a lease, and does not in terms create the relation of landlord and tenant, yet it is the giving of the exclusive use of real estate, for which the giver has a right to exact compensation, which is in the nature of rental.[85]

These rents are distinct from the charges levied pursuant to the police power in connection with right-of-way management.[86] Federal law protects these rents from FCC intrusion.[87]

State and local governments use a variety of methods to assign value to these property interests. In many places, at least for rights-of-way, State laws directly establish the amount and type of fees that may be charged. In other cases, State law may require local governments to value the property and recover the value for their taxpayers.[88] And in other cases, local governments have broader flexibility to determine the rental fee to be charged, and the fee is

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[85] *City of St. Louis v. Western Union Telegraph Co.*, 148 U.S. 92, 99 (1893), *op. on rehrg.*, 149 U.S. 465 (1893).

[86] Section 253's legislative history recognizes the distinction between fees associated with right-of-way management, and compensation for this property's use and occupation. Compare 141 Cong. Rec. S8170-8172 (statement of Sen. Feinstein) (daily ed. June 12, 1995) (describing costs associated with management of right-of-way access); 141 Cong. Rec. H8460 (noting that Section 253(c) "explicitly guarantees that cities and local governments have the right to not only control access within their city limits, but also to set the compensation level for the use of that right-of-way") (statement of Rep. Barton) (daily ed. Aug. 4, 1995).

[87] *See, e.g.*, 47 U.S.C. § 542 (establishing cable franchise fee); 47 U.S.C. § 224 (restricting FCC authority to regulate fees for municipally-owned rights-of-way, polesm and conduit); 47 U.S.C. § 253(c) (protecting local authority to obtain compensation for use of rights-of-way).

[88] To prevent local governments from subsidizing private business, State laws may require property to be leased, licensed, or franchised at a fair market value price. This is often the case with respect to leases of rooftops or other buildings, but it is also true in some jurisdictions with respect to right-of-way charges.

established by ordinance or through negotiation. In deciding what to charge, local governments may act based on their own experience, or they may look to private and public comparables. A community may choose to charge one fee for all users or to establish different fees based on how local property will be used. For example, a local government may charge a per foot fee if an entity seeks the right to go from point-to-point along a specified route; but it may use a different fee structure for a provider that seeks the right to place facilities in any street in the community (and whose usage is constantly changing). In many cases, local governments work directly with industry representatives to develop the appropriate model.

There are many examples of this form of franchising. Cable service providers enter into cable franchise agreements with State and local governments, a practice expressly recognized by the Communications Act.[89] Telecommunications service providers also enter into such agreements. For example, the City of St. Louis, Missouri, required certain telecommunications providers to enter into licensing agreements to use the public rights-of-way that provided for either a gross revenues or per foot fee.[90]

3. Leasing of Government-Owned or -Controlled Property

Similarly, local governments own many buildings, towers, poles, and other structures.[91] A local government may also own easements that create limited purpose rights-of-way including limited access roadways into environmentally sensitive areas (a wildlife preserve, for example); emergency access rights-of-way; rights-of-way providing access to beaches, parks, and other facilities; and rights-of-way through parks and other areas. A request to locate facilities in these

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[89] 47 U.S.C. § 541.

[90] St. Louis, Missouri, Revised Code Chapter 23.64. The requirements were upheld in *Level 3 Comms. LLC v. City of St. Louis*, 477 F.3d 528 (8th Cir. 2007); *Level 3 Comms. LLC v. City of St. Louis*, 540 F.3d 794 (8th Cir. 2008).

[91] NOI ¶ 3 (discussing towers, building rooftops, water towers, billboards).

special "rights-of-way" involves different considerations and different departments than a request to place a facility on a street.

While local governments generally allow communications providers to place facilities in streets (subject to certain limits), deciding whether access can and should be granted to other property may raise distinct issues. If there is a public benefit, many local governments are willing to allow access to a variety of structures, so long as the government can limit the number and nature of connections. On a historic lamppost, for example, a City may allow a single, unobtrusive antenna, but choose not to allow multiple additional attachers.[92] Local governments typically have the right to—and may be required to obtain—fair market value for the lease of property. In many cases, this can be determined by (among other ways) examining lease terms for use of private property.

4. "Permitting" for Work in Rights-of-Way and Streets

Local governments generally rely on their police powers to regulate operations in the streets and the public rights-of-way. This power is distinct from the franchising authority: even where the State issues the franchise (the authorization to be in the rights-of-way), local governments typically have the right to control the time, place, and manner in which the right-of-way is used.[93]

Although local right-of-way permitting processes vary on a community-by-community basis, many have common components. These processes typically focus not on the ultimate service to be provided, but on what, where, and when work will be performed, and who will

[92] A rule that required a local government to grant access to every applicant who wished to attach to a lamppost would likely preclude the local government from leasing that property altogether.

[93] *See, e.g.* Cal. Pub. Util. Code § 7901 (authorizing telephone companies to use rights-of-way, but making use subject to local government police power authority).

perform it.[94] These factors often shape the detail and time required. For example, most communities do not require a pre-construction permit for emergency repairs.[95] Communities may require more detailed information for work on major arteries as compared to smaller, and less trafficked residential streets. Many communities require entities to notify residents of work,[96] to coordinate with other right-of-way users,[97] and to provide maps indicating where facilities will be (and have been) placed.[98]

Similarly, local governments may utilize police powers to regulate the "time, place, and manner" for placement of wireless facilities on streets.[99] For example, the City of Palos Verdes Estates ordinance permits the City to deny a permit to place a wireless facility in the public

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[94] *See, e.g.,* Anne Arundel County, MD Code § 13-3-201(a)-(b) (requiring a right-of-way permit whenever any person occupies, uses, or engages in any activity in a right-of-way unless that activity: (i) makes no material change to a facility's footprint or to the surface or subsurface of the right-of-way; and (ii) does not disrupt or impede traffic in the traveled portion of a right-of-way); Albuquerque, NM Code § 6-5-2-5 (A); Carlsbad, CA Code § 11.16.060; Santa Clara, CA Code § 12.25.010 (2009).

[95] *See, e.g.,* Anne Arundel County, MD Code § 13-3-205(b); Santa Clara, CA Code § 12.25.160; City of Palos Verdes Estates, CA Code § 12.12.050.

[96] *See, e.g.,* Anne Arundel County, MD Code § 13-3-403 (2005); Santa Clara, CA Code § 12.25.100.

[97] *See, e.g.,* Anne Arundel County, MD Code § 13-3-401 (2005); Santa Clara, CA Code § 12.25.140(e) (2009).

[98] *See, e.g.,* Anne Arundel County, MD Code § 13-3-205(d); Carlsbad, CA Code § 11. 16.060; Santa Clara, CA Code § 12.25.040(c).

[99] We again caution that there are many different types of government property, and that local authority over use of streets may be different than local authority with respect to other property. For example, in California, wireless companies have suggested that they have the same rights of access to rights-of-way as wireline providers, and are subject only to police power regulation. The placement of a wireless tower on a fire station would involve a different issue: the local government would clearly be in the position of a private landlord, and could charge rents and establish conditions consistent with that authority. Hence a "permit" to place a tower on a public building would be more like a traditional property lease and less like a permit to perform construction in a street.

rights-of-way based on the facility's "adverse aesthetic impacts."[100] Finding that the public rights-of-way are the "visual fabric from which neighborhoods are made," the Ninth Circuit recently ruled that the City's application of this requirement is consistent with the Communications Act.[101]

Once a permit is issued, the State and local government must ensure that work in the rights-of-way takes place safely and with the least disruption. This may involve on-site inspection or pre-construction meetings.[102] And for some types of work, a post-construction inspection may need to be conducted to ensure that affected property was properly restored.[103] The processes may be reflected not only in ordinances, but also in right-of-way manuals that can be changed without requiring a change in an ordinance.[104]

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[100] City of Palos Verdes Estates, CA Code § 18.55.030(B). In the City of Palos Verdes Estates, placement of facilities on public or private property is subject to the City's zoning code. However, in other communities, the zoning code does not apply to the streets, and there are separate provisions governing the structures that may be placed in the right-of-way.

[101] *Sprint PCS Assets, L.L.C. v. City of Palos Verdes Estates*, 583 F.3d 716, 724 (9th Cir. 2009).

[102] *See, e.g.*, City of Palos Verdes Estates, CA Code § 12.12.070; Albuquerque, NM Code § 6-5-2-23; City of Berkley, CA Code § 16.18.150. This process may detect errors in the permit application. For example, if an on-site inspection shows that construction will cross a protected wetland that was not identified in the permit application, an applicant may be required to take steps to prevent environmental damage. Likewise, plans may need to be revised if, for example, the inspection shows that the facilities are being placed in a different location than the application indicated—such as nearer gas pipelines or other facilities.

[103] *See, e.g.*, Arlington County, VA Code § 22-5(k); Albuquerque, NM Code § 6-5-2-15.

[104] Typically, local governments evaluate permits under a set of uniform standards. These standards may be adopted by ordinance or by departments, subject to governing body review. In many cases, local government departments are given some authority to grant exceptions for good cause, or to interpret policies. Hence, when the Commission asks how often local governments change ordinances, the answer is, when there is a need to do so.

Local governments often require the entity triggering this local process to pay a fee.[105] These fees are imposed pursuant to the police power, and are conceptually distinct from the rental/compensation fee imposed pursuant to the proprietary power. Fees imposed pursuant to the police power are typically cost-based.[106] Often, however, fees are not designed to recover all costs associated with right-of-way management.[107] The fees may reflect State law limits, as in Colorado, for example, where only certain costs may be recovered.[108]

These processes are typically well-publicized and well-understood. Many communities provide detailed information on the Internet,[109] and some allow applicants to submit applications online.[110] Communities will often meet with companies to discuss permitting processes to ensure that the process is clear and understood, and to emphasize particular requirements.

These practices vary from community to community—and for good reason.[111] Rights-of-way have unique histories based on facility placement dating back more than a half century.[112]

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[105] *See, e.g.*, Anne Arundel County, MD Code §§ 13-3-302, 13-3-303; Arlington County, VA Code § 22-7; Albuquerque, NM Code § 6-5-2-7; Carlsbad, CA Code § 11.16.130.

[106] *See, e.g., Parking Auth of City of Trenton v. City of Trenton*, 40 N.J. 251, 259 (1963).

[107] Ashpaugh Declaration.

[108] Colo. Rev. Stat. § 38-5.5-107(1)(b).

[109] *See, e.g.*, City of Portland, Oregon ((http://www.portlandonline.com/auditor/index.cfm?c=28853); City of Tucson, AZ (http://cms3.tucsonaz.gov/engineering/permits-codes-excavation) City of Issaquah, WA (http://www.ci.issaquah.wa.us/Page.asp?NavID=446).

[110] *See, e.g.*, Anne Arundel County, Maryland, http://www.aacounty.org/DPW/Highways/Rightofway.cfm; City of Wilmington, DE (http://cityroadwaypermit.wilmingtonde.gov/sites/permit/public/default.aspx; City of Los Angeles, CA ((http://lacity.org/submenu/permitslicenses/index.htm).

[111] Declaration of Murvyn Morehead ("Morehead Declaration"), attached hereto as Exhibit H, at ¶ 6.

[112] *Id.*

The property has differing stuctural and composition issues,[113] and its management must be tailored in light of these differences and other community goals. In Santa Clara, California, for example, the City years ago devised very strict standards for placement of facilities in the rights-of-way. It did so in part because the City, as home to some of the world's most important broadband firms (including Intel and Sun Microsystems), sought to ensure that the right-of-way infrastructure on which these companies rely is not damaged. Demanding that Santa Clara satisfy a "one-size-fits all" federal standard is not likely to advance broadband deployment, but it could cause significant damage to the broadband economy.

5. Zoning of Facility Placement

Local governments also use the zoning process to regulate the placement of facilities in their communities. Since early in the 20th century, the Supreme Court has recognized this to be a lawful exercise of a local government's police powers:

> [T]he question whether the power exists to forbid the erection of a building of a particular kind or for a particular use, like the question whether a particular thing is a nuisance, is to be determined, not by an abstract consideration of the building or of the thing considered apart, but by considering it in connection with the circumstances and the locality. . . . A nuisance may be merely a right thing in the wrong place, -- like a pig in the parlor instead of the barnyard. If the validity of the legislative classification for zoning purposes be fairly debatable, the legislative judgment must be allowed to control. . . . There is no serious difference of opinion in respect of the validity of laws and regulations fixing the height of buildings within reasonable limits, the character of materials and methods of construction, and the adjoining area which must be left open, in order to minimize the danger of fire or collapse, the evils of over-crowding, and the like, and excluding from residential sections offensive trades, industries and structures likely to create nuisances.[114]

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[113] *Id.*

[114] *Euclid v. Ambler Realty Co.*, 272 U.S. 365, 386-388 (1926). Zoning issues can be similar to those that are addressed through the right-of-way permitting process, but there are good reasons

Many zoning ordinances specifically address the placement of wireless facilities. "[L]egitimate concerns" include, but are not limited to, "the height of the proposed tower, the proximity of the tower to residential structures, the nature of uses on adjacent and nearby properties, the surrounding topography, and the surrounding tree coverage and foliage."[115] Aesthetics is also an important—and perfectly appropriate[116]—consideration.

While local zoning ordinances necessarily vary based on a community's needs, many include similar elements.[117] A zoning code will typically define what types of facilities are

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why many communities treat them distinctly. Where zoning is concerned, many local governments focus on how landowners may use their property, and design rules that can be applied fairly to a variety of utility and non-utility functions, with an exceptions process for cases where the general rule would lead to significant harms. For example, cell towers may require special use permits in some locations (like residential neighborhoods) not because local governments disfavor communications facilities, but because towers are not permitted as a general matter in a particular neighborhood, regardless of purpose. Some issues that are of great concern in a right-of-way context (traffic control and pavement life, for example) may not arise in the zoning context, or at least may be of less concern. Right-of-way management deals with a publicly-owned facility that is primarily dedicated to pedestrian and vehicular transit, and to use by utilities and quasi-public utilities. Typically, only utilities and quasi-utilities are entitled to place permanent facilities in, over, or under the rights-of-way; other uses present too great a risk to the integrity of facilities and to the provision of public services. Right-of-way management involves more significant coordination and planning, and hence applications typically go through a different process than do applications for placement of many facilities on private or other public property. Of course, in some cases (placement of antennas) zoning and permitting issues are similar.

[115] *T-Mobile USA Inc. v. City of Anacortes*, 572 F.3d 987, 994 (9th Cir. 2009).

[116] *Sprint PCS Assets, L.L.C. v. City of Palos Verdes Estates*, 583 F.3d 716, 725 (9th Cir. 2009).

[117] Despite some standard elements, there are important reasons why ordinances differ. Communities differ dramatically, and what is appropriate in one community may not be appropriate (in terms of safety or community development) in another. A community that is primarily residential may have different development and safety concerns than a community with significant industrial areas. Communities have different structures and budgets, and what works economically in one community may not in another. Because of this, different levels of oversight may be required. For example, a detailed structural review of a proposed tower may be critical in an urban area, but may be less concern in a rural community. Attempting to regulate the process at the federal level would be wasteful, would deprive communities of the ability to test and adjust different approaches over time, and it would ignore differences in the oversight required.

permitted in various areas (residential, industrial, commercial and so on) within the community. Zoning requirements are typically linked to specific substantive standards developed at the State or local level[118]—a practice that Section 332(c)(7)(B)(iii) expressly contemplates.[119] The zoning code will define what types of facilities may be installed as a matter of right, and which require a hearing and a special authorization prior to construction (whether in the form of a conditional use permit, a special exception, or otherwise). Many ordinances express a preference for co-location,[120] and may allow collocation as of right, so long as certain standards are satisfied. It may be relatively simple to place a tower in one zone and more difficult in other zones.[121] The conditional use permit may be granted, denied, or conditioned on certain requirements, such as use of a stealth or other unobtrusive design.

Even where a facility is permitted as a matter of right, and does not require a special exception, a person who wishes to build such facility may need to obtain a building permit, and show that the planned work will comply with applicable safety codes and construction standards. This typically requires an application, which may require an applicant to describe the facility and

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When Congress protected local zoning authority, 47 U.S.C. § 332(c)(7), it ensured that local citizens could set zoning standards for their own communities.

[118] *See, e.g.*, City of Berkley, CA Code §§ 23C.17.050-23C.17.080; Peachtree City, GA Code § 18-382; City of Palos Verdes Estates, CA Code § 18.55.040; Albuquerque, NM Code § 14-16-3-17(A)(1- 4), (9), (10).

[119] *See, e.g.*, *MetroPCS Inc. v City and County of San Francisco*, 400 F.3d 715, 724 (9th Cir. 2005) (noting that the Telecommunications Act does not "does not affect or encroach upon the substantive standards to be applied under established principles of state and local law.") (quoting *Cellular Tel. Co. v. Town of Oyster Bay*, 166 F.3d 490, 494 (2d Cir. 1999)).

[120] *See, e.g.*, City of Berkley, CA Code § 23C.17.050(C); Glendale, CA Code § 30.48.040(A)(6); Peachtree City, GA Code § 18-381(b)(2); City of San Carlos, CA Code § 18.118.030(F)(4); Albuquerque, NM Code § 14-16-3-17(A)(6).

[121] *See, e.g.*, Glendale, CA Code §§ 30.48.020, .030(A); Peachtree City, GA Code §§ 18-380, 381.

its proposed location, and to show that setback and other related requirements are met.[122] Depending on the facility and its location, various screening measures may be required,[123] and basic maintenance obligations may be imposed.[124] Consistent with Section 332(c)(7), local codes may require the facility to satisfy the Commission's requirements regarding the environmental effects of radiofrequency emissions.[125] Building permit requirements may apply to any construction activity, but the inspections and information required may vary depending on whether the work is minor, a collocation, or involves new tower construction. That is, local governments often tailor their review to the work involved.

As with the permitting process, zoning fees are typically imposed through the police power, and are generally limited to recovering the costs associated with the permitting process. As with the permitting processes, the procedures are usually well-publicized and easily understood.

In sum, a single set of federal "permitting" rules would not work. Local governments expend considerable resources to develop and address these issues, and they are uniquely positioned to adapt these practices to local circumstances.

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[122] *See, e.g.*, City of Berkley, CA Code § 23C.17.040; Peachtree City, GA Code § 18-380(c)(1); City of San Carlos, CA Code § 18.118.040; City of Palos Verdes Estates, CA Code § 18.55.030(C).

[123] *See, e.g.*, City of Berkley, CA Code §§ 23C.17.040(E)(2) and .070; Glendale, CA Code § 30.48.070(A)(2); Peachtree City, GA Code § 18-382(b)(2); City of San Carlos, CA Code § 18.118.050(C).

[124] *See, e.g.*, City of Berkley, CA Code § 23C.17.080(B); Glendale, CA Code § 30.48.070(G); City of San Carlos, CA Code § 18.118.050(F); City of Palos Verdes Estates, CA Code § 18.55.045.

[125] *See, e.g.*, City of Berkley, CA Code § 23C.17.090; Albuquerque, NM Code § 14-16-3-17(A)(8); City of Palos Verdes Estates, CA Code § 18.55.030(C)(8).

IV. LOCAL EXPERIENCE INDICATES THAT PERMITTING PRACTICES WORK WELL, AND ARE ADJUSTED OVER TIME TO ADDRESS NEW ISSUES.

The Commission also asks how local practices governing the use of existing streets and processes for approval of wireless towers are operating.[126] These practices work very well. Local governments regularly update these practices and work with applicants to streamline the process. And local experience indicates that without these right-of-way practices, broadband deployment and adoption would be jeopardized.

A. The Permitting Process Generally Operates Smoothly.

Local permitting practices generally operate smoothly. When problems do arise, it is typically because applicants have not taken basic steps to familiarize themselves with the local practices, or because they simply refuse to comply with them.

Communities report no "average" time for permitting, as it depends on the particular project, and the work required to review and approve the permit. For example, in Montgomery County, Maryland, a traffic control plan generally is not required where the street is less than 80 feet wide, but it is required for other streets where work can create significant safety hazards.[127] All other things being equal, it takes longer to review an application that requires a traffic control plan than one that does not.[128] Similarly, for major projects, local governments may adopt

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[126] NOI ¶¶ 13-15 and 24-25.

[127] Montgomery County, Maryland, DPS/Roads-Right-of-Way Permit, *available at*: http://permittingservices.montgomerycountymd.gov/dpstmpl.asp?url=/permitting/r/nfdp.asp

[128] As suggested above, other local issues can create different variations. For example, many communities have historical districts or "overlay" districts where there are restrictions on the placement of structures or on their appearance. The review process for an application to place facilities in these areas is more time-consuming, and may involve different departments than an application to place an above-ground facility in a commercial district. Likewise, depending on the project, there may be environmental issues, or issues regarding protection of sites of historical and cultural significance.

additional procedures for notifying other utilities in order to encourage joint trenching and to coordinate facility installation.

Applicants who take the construction process seriously rarely have trouble with these requirements. Hence, if an applicant works with a community, the applicant can stage the application process so that the project can be completed within a reasonable time frame.[129] The few problems that do arise are usually caused by applicants. In some cases, an applicant proceeds to construction before it takes even basic steps to familiarize itself with local procedures.[130] These applicants may submit applications that are incomplete, that could cause disruptions, or that are incompatible with existing facilities in the rights-of-way.[131] In some cases, a local government may only discover the defect upon inspection. In such cases, the process may be delayed—sometimes for significant periods—while the applicant gathers the material that it should have prepared much earlier.[132] Local governments report that after companies and their personnel take basic steps to familiarize themselves with local procedures, few problems result. In other situations, delays can occur if an applicant seeks to depart from existing standards, and to install facilities in a manner that existing rules do not permit or anticipate. Local governments must then decide whether the departure should be allowed at all; and, if so, whether it should be allowed as an exception or as a rule.[133] In Santa Clara, California, for example, the City traditionally entered into "right-of-way encroachment agreements" that set blanket standards for

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[129] CTC Report 2-3, 19; Morehead Declaration ¶ 7.

[130] As suggested above, this is true even for the largest companies, like Verizon.

[131] Morehead Declaration ¶ 7.

[132] Matters are obviously complicated further if a local government is forced to issue stop work orders.

[133] This is not unlike the situation the Commission faces when it is asked to approve a new technology or a waiver of its rules. Depending on the request, the issue may be resolved easily or it could require significant consideration.

use of the rights-of-way, much like a pole attachment agreement will set general rules for use of poles. When AT&T entered the market with U-Verse facilities, it would not enter into an encroachment agreement, even though other utilities had done so. It insisted that the City develop an ordinance. The City worked to do so, but the company's insistence necessarily delayed the entry process. The delay lies squarely with the company.

B. Many Local Governments Have Streamlined Their Practices and Have Actively Worked with Applicants.

The local permitting practice is not static. Local governments regularly review and streamline practices, and work to distinguish applications that require detailed review and those that do not. In some communities, applications can be submitted online. Many local governments make consistent and ongoing efforts to reach out to users, to revisit practices, and to adjust them to circumstances and new technologies.[134] And, for major projects, certain communities facing staff shortages allow companies to pay fees to defray the cost of hiring additional staff to handle applications.[135] This should not be surprising: every community has a significant interest in promoting development and infrastructure, and thus an interest in revising and streamlining procedures so that the permitting process is as effective as possible given budget constraints. Of course, these efforts require local governments to expend considerable resources, which must be recovered through rents or fees. In Portland, Oregon, for example, staff is able to devote significant time to aiding providers in the permit application process—something the City might not be able to do if it could not charge a fair rent and were forced to cut its budget.

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[134] *See* Comments of GMTC *et al*, WC Docket No. 11-59.

[135] Because a local government cannot predict when or how many applications will be filed, it is not practical for a local government to hire staff to serve peak demand. Doing so could require the local government to charge higher fees in all cases; or to cover the shortfall by raising taxes and other fees to residents, and cutting services.

C. Local Governments Ensure That New Technologies Satisfy Existing Public Interest Standards.

One of the virtues of local right-of-way practices is that they are rarely technology or service specific. Because of this, each time a new technology arises, these practices need not be developed from whole cloth. Instead, as discussed above, local right-of-way practices are rooted in basic concepts of property law (franchising/licensing/leasing) and in police power measures that protect the community from adverse impacts (subdivision development, right-of-way permitting, zoning). These long-standing rationales apply to new technologies just as they apply to old. For example, to the extent a DAS provider seeks to use facilities or streets in which the local government has a property interest, it may need to obtain a license, franchise, or lease. If the provider also seeks to work in the streets or the rights-of-way, it may need a right-of-way permit designed to prevent traffic or other disruptions. And if the DAS provider also seeks to place wireless service facilities, it may need to comply with local codes that impose height or structural limitations, or that limit visual blight.

Local governments also experiment with and are open to new approaches to construction.[136] The Commission mentions "microtrenching,"[137] a technology that may cut fiber deployment costs, but whose consequences local governments are currently evaluating. Microtrenching is not likely to prove appropriate in all construction projects. Many local standards require facilities to be buried a certain distance apart and at a certain depth (to ensure facilities are not damaged during routine road repair), and microtrenching may not be consistent with those standards. If microtrenching proves to have little impact on public rights-of-way, does

[136] Oddly enough, if the Commission were to impose an affirmative "non-discrimination" requirement on local governments, such experimentation would be discouraged. A local government would be forced to assume that if one entity is permitted to use a technique, all entities will claim a right to use it, as well.

[137] NOI ¶ 43.

not interfere with other utilities, and can be employed consistent with local management practices, many communities will no doubt approve it.[138] But in the meantime, communities that do allow microtrenching must ensure that they are protected if the technique has adverse consequences.[139] It takes time to assess this impact, and to develop "best practices" regarding the use of the technique. But such reviews are not a significant source of delay, and certainly are not a simple solution (adopt/deny the new technology) that can or should be dictated.[140]

This is not to say that new technologies do not present unique issues. It may happen that a communications system will require installation of facilities very different than facilities typically permitted under applicable codes. In that case, the facilities provider and the community must work together to develop standards that balance the interests at stake and that can be applied fairly. That is exactly what communities across the country did when the wireless industry began to expand: communities revisited their ordinances and developed tower siting processes that have protected communities while allowing the industry to provide service. Local governments continue to revisit ordinances as necessary to address changes in technology.

Local governments are also often the first entities to confront the knotty issues of federal, State, and local law that these new technologies present. For example, under federal law, DAS providers often have not clarified whether they provide personal wireless service under Section 332(c)(7) or telecommunications service under Section 253. Under some State laws, it can be unclear whether DAS providers qualify as telecommunications service providers. In addition, some DAS providers have engaged in speculative practices in which they have sought authority

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[138] Morehead Declaration ¶ 14.

[139] In an era in which many telecommunications companies have gone bankrupt, the risk that facilities will be abandoned or that successor companies will seek to avoid the promises made by their predecessors is real and serious.

[140] Morehead Declaration ¶ 14.

to place facilities before they have any underlying customers that would provide service in the community. This creates the spectre of unused facilities occupying the rights-of-way. Despite these challenges, local governments regularly work with DAS providers to facilitate deployment in accordance with existing property rights and local protections. DAS providers should continue to work cooperatively with local communities; their call for federal "standardization of local zoning standards" undermines these efforts, and flatly defies Congress's decision in Section 332(c)(7) to preserve existing State and local practices.[141]

D. Local Right-of-Way Practices Prevent Problems That Would Undermine Deployment and Adoption.

Local right-of-way practices also prevent problems that would otherwise undermine broadband deployment and adoption efforts. The public right-of-way is a finite resource. Because of this, if the rights-of-way were opened to all without responsible management, ultimately no one could use them effectively.[142] The public rights-of-way are a classic example of what economists refer to this effect as a "tragedy of the commons."[143] Without local oversight, companies acting in their self-interest would deplete this limited, shared resource for their own benefit, even though this would not be in anyone's long-term interest.[144] Accordingly, sustaining the rights-of-way as a resource for the *entire* community is a major local government responsibility.[145] Through local right-of-way practices, problems like those described above with respect to Verizon's deployment can be avoided. This not only allows a broadband provider to

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[141]The DAS Forum, *Ex Parte* Presentation, WC Docket No. 07-245, GN Docket No. 09-51 at 20 (Dec. 21, 2010).

[142] Morehead Declaration ¶ 5.

[143] "The Tragedy of the Commons," Garrett Hardin, Science, 162(1968):1243-1248.

[144] Morehead Declaration ¶¶ 4-6, 8.

[145] *Sustainability of Our Right-of-Way,* APWA Reporter at 74 (Aug. 2010).

deploy its network without disruptions; it also avoids upsetting potential broadband "adopters" in the community during the deployment process.[146]

Right-of-way pricing is also an important vehicle for ensuring that public property is used in a manner that promotes, rather than discourages deployment. As the ECONorthwest Report explains, the rights-of-way are a scarce resource.[147] Today's scarcity manifests itself in the many locations in which one service's right-of-way use inhibits the use of the rights-of-way or other properties by the same or other users. That scarcity and the associated negative spillover effects will persist into the future. Such effects may include increased excavation or construction costs, increased costs associated with design and planning, costs associated with loss-of-service attributed to construction accidents or other damage to services in the rights-of-way, increased travel time for vehicular traffic on the rights-of-way, and lost revenues for businesses whose customers are inconvenienced by right-of-way construction.

In an economy based on competition, producers and owners of goods and services with economic value typically do not give them away free. In economic markets, prices serve as signals that help society put its resources to efficient use. Not charging for use of a local government's rights-of-way would treat it as if it were a free good with no economic value.

Charging fees less than the value granted to the right-of-way user sends the signal that the resource is worth less than its true value. This will lead both to inefficient use of the rights-of-way and to a subsidy to the user, which will manifest itself in the form of additional burdens on the community and other right-of-way users.[148] As discussed in the next section, those additional

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[146] *Verizon's Aim Gets Better*, Tampa Tribune, Feb 6, 2006, at 1 (noting that "[h]ow thousands of homeowners react to Verizon's drilling could have a powerful effect on the company's ability to sign up paying customers.").

[147] ECONorthwest Report at 15-18.

[148] ECONorthwest Report at 17.

burdens will adversely affect broadband deployment. By contrast, providing local governments flexibility in pricing—the flexibility envisioned and required by Section 253(c)—can encourage cooperative and efficient right-of-way uses and ultimately encourage deployment.

V. THE COMMISSION CANNOT AND SHOULD NOT REGULATE LOCAL RIGHT-OF-WAY PRACTICES, BUT IT MAY BE ABLE TO DEVELOP HELPFUL VOLUNTARY PROGRAMS.

The Commission asks whether it should actively regulate local right-of-way practices,[149] or whether it should consider other approaches—including educational approaches—to speed broadband deployment. Even if it had authority to do so (it does not),[150] the Commission should not regulate local right-of-way practices. Instead, the Commission should focus its efforts on carefully tailored voluntary and educational efforts. As discussed below, there are already significant educational resources available on these issues, and the Commission (which has no civil engineering expertise) should not attempt to duplicate the civil engineering programs and educational efforts already underway. Rather, the Commission should move quickly to implement the IAC and the National Broadband Plan's proposed Task Force, and then work with these entities to develop a cooperative program—based on federalism principles and respect for expertise and responsibility—that leverages existing information and the Commission's own expertise and resources.[151]

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[149] NOI ¶¶ 36, 45-49.

[150] *See*, *infra*, Part VI.

[151] The IAC can build upon the work of the LSGAC, which played an important role for the Commission. Among other things, the LSGAC helped to develop the informal mediation process on moratoria and the RF emissions guide; conducted a series of meetings with NAB to try to resolve concerns over land use disputes related to broadcast facilities siting; made advisory recommendations on multiple issues regarding how possible federal action would affect local operations; held regular meetings with bureau staff to help educate them on local government operations; and served as vehicle to distribute Commission information widely to the local government community.

A. Federal Rules Cannot Adequately Address Local Property Management and Could Be Disruptive.

Federal rules are ill-suited to address local right-of-way practices for a number of reasons. Instead, the proper approach to local right-of-way practices is similar to that which NTIA recently recommended for public safety networks:

> Notwithstanding the need for a nationwide public safety broadband architecture, certain aspects of the network such as capacity, coverage, cell site placement, hardening, certain aspects of reliability, and backhaul provisioning are inherently local in nature. They vary according to terrain, demography, and other characteristics, making a one-size-fits-all approach inappropriate. The Commission should refrain from imposing uniform requirements given such innately local characteristics. Rather, the Commission should defer to the Corporation, which would consult with the relevant State, local, or Tribal jurisdictions regarding these matters, and Federal entities as appropriate, and incorporate their input into its deployment plans.[152]

Like public safety broadband networks, broadband deployment and adoption are of critical importance. But it does not follow that federal regulation of these State and local processes is an effective means to advance these ends.

1. The Commission Cannot Match Local Governments' Expertise or Ability To Adapt.

The Commission cannot match local governments' ability to develop local practices and to adapt these practices to local circumstances. Many right-of-way practices are uniquely tailored to serve the interests of particular communities.[153] Moreover, these local right-of-way practices are not static, as discussed above.

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[152] Comments of the National Telecommunications and Information Administration, *In re Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, WT Docket No. 06-150 at 11 (June 10, 2011).

[153] Morehead Declaration ¶ 6.

This proceeding is also no substitute for local governments' considerable experience and expertise. Local right-of-way practices have developed after considerable study and analysis, and local governments now employ many leading thinkers and managers in the field. This local expertise is expanding, and efforts are underway to ensure that best practices are regularly shared. APWA keeps public works professionals up-to-date through timely publications, workshops, interactive audio and *Click Listen & Learn* web conferences, training, chapter programs, and national meetings. APWA also holds an annual Public Works Congress and Exposition that brings together the newest public works products, emerging trends, and best practices. NATOA also regularly hosts educational sessions for its members, including many that touch on issues at the heart of this proceeding.[154] NATOA also recently released *Local Government Official's E-Guide to Communications Facility Siting*, which includes articles from both local government and industry representatives. USCM has established a Transportation and Communications Committee to discuss broadband and its role as one of the key drivers of local and metropolitan economies. IMLA regularly holds seminars to acquaint municipal attorneys with issues surrounding management of rights-of-way and placement of wireless towers. While this proceeding may provide the Commission with a basic overview of right-of-way practices, it cannot replace this local expertise, and duplicating these resources would be difficult to justify.

[154] Recent sessions include: Follow-up to Wireless Facilities Siting - How to Accommodate Explosive Growth while Maintaining Neighborhood Livability - Best Practices; Fiber in ALL Our Communities: Updates and Assessments of Google's and Other FTTP Initiatives; Embracing Convergence (1): How to Evolve the Cable Regulatory Role to Address New Needs and Technologies; Forecasting and Planning for Wireless Communications Demands While Making Revenue for Your Municipality; Driving broadband adoption: How to implement cost-effective adoption programs in your community; Tell me about 4G: What is it, how does it work, when's it coming, and how will it impact my community? Building Fiber-to-the Home, One Block at a Time: How you can replicate the Cleveland Beta Block to transform your community

2. Federal Rules Could Have Severe Unintended Consequences—Including Major Impacts on Local Budgets.

Federal rules could have severe unintended consequences. For example, the Commission asks whether existing charges are reasonable, and whether it should act to limit a local government's "compensation" under Section 253.[155] As discussed, *infra*, Congress gave the Commission no such authority.[156] And for good reason: limiting a local government's ability to charge fees could cause severe disruption of rights-of-way, encourage inefficient use of the rights-of-way and result in a direct reduction in broadband adoption.

One common proposal is that the Commission limit local right-of-way "compensation" to "costs." Before the Commission seriously considers such a proposal, it needs to quantify the scope and cost of such an unfunded mandate. The mere prospect of triggering community by community cost studies is frightening. As the Commission's own experience with cost-based regulation of the telephone industry should make clear, it is very expensive to implement a cost-based regulatory system. It is certainly true that many local governments charge cost-based fees for particular activities involving the rights-of-way, but those fees are typically not designed to recover all right-of-way costs. Requiring a cost-based system would therefore have one of two effects: local governments would have to forego recovery of certain costs, and subsidize telecommunications providers' right-of-way use; or each community would be required to perform a cost study. Performing these studies community by community among the tens of thousands of local jurisdictions that control public and special right-of-way use is estimated to cost billions of dollars.[157] Indeed, this new federal regulatory program's cost could easily exceed

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[155] NOI ¶¶ 16, 57.

[156] Part VI.A.

[157] Aspaugh Declaration at ¶ 9.

the amount provided for broadband stimulus under the American Recovery and Reinvestment Act. Given the extraordinary value and costs associated with the rights-of-way,[158] it is far from obvious that requiring such studies would benefit providers. Moreover, some providers *prefer* gross revenues based fees because fees only become due if and when the provider attracts customers.

As importantly, the Commission should expect that in States where fees are prescribed by statute (and therefore not based on individual community cost), requiring fees to be cost-based would immediately result in providers withholding rent payments. This would immediately cut billions of dollars from local budgets in Michigan (standard fee per foot), Texas (fee per line), Oregon (gross revenues based fees), and elsewhere. In many States, it is not clear that local governments could adopt a new cost-based fee until the State law could be changed. The effect on the communities could be disastrous.

In some communities, the cost of the new federal regulatory system or the immediate loss of revenues that would accompany such a Commission pronouncement could force local governments to eliminate the very staff that currently process broadband applications or that inspect work. Replacing these experts with a single helplessly overwhelmed local staffer (or eliminating the position altogether) would not only slow the process, but it could also lead to the very community disruption that local experts tirelessly work to avoid everyday. These disruptions, too, slow broadband deployment. Moreover, limiting local fees could deprive local governments of the resources needed to create the sort of innovative broadband deployment solutions that are being implemented around the country. For example, libraries, which offer services critical to broadband adoption, would face further budget reductions in service.

[158] TeleCommUnity, *Valuation of the Public Rights-of-Way Asset*, attached as Exhibit I.

Deployment and adoption would be discouraged, not encouraged. The cost of the program, the fact that there is no evidence that it would benefit even the providers, and most importantly, the fact that it will not encourage broadband deployment or adoption—all counsel against federal regulatory requirement.

The Commission also asks whether it should further streamline the process for collocation on existing towers.[159] While many State and local governments have elected to encourage collocation and to streamline the collocation process,[160] mandating this in all cases is not warranted and could have serious unintended consequences. Through the collocation process, a single unobtrusive monopole can morph into a multi-pronged, unsightly structure. For example, in Prince George's County, Maryland, a single monopole on Contee Road in Laurel went through just such a transformation:

2005 2007 2010 2011

This is not the sort of "bloom" that many residents hope will greet them each morning:

[159] NOI ¶ 14.

[160] *See, e.g.*, Cal. Gov't Code § 65850.6; Ga. Code Ann. § 36-66B-4; Beaverton, OR Development Code § 60.70.60.

These structures can fundamentally change the aesthetics in residential and other areas, and can have a serious impact on property values. In addition, each facility added to an existing structure can present safety issues, both through the added impact on the original structure and through its installation. Indeed, as the Montgomery County Comments explain, several applicants have submitted collocation applications that created serious safety risks to the public. In one case, the provider submitted a request to collocate on a pole its own engineering report suggested could not support the collocation. Further streamlining a process that is not causing any meaningful delay—but is preventing harm to the public—is unjustifiable.[161]

None of this is to say that collocation is not often a useful approach; it is. But a one-size-fits-all federal rule that mandates approval of all collocation requests could have serious impacts on local communities. The Commission should note that if collocation were mandatory, it could impact how local officials consider applications to place communications facilities on public

[161] The industry often suggests the changes required in connection with a collocation are insignificant. But even "insignificant" changes can present enormous risk. Local governments have learned this lesson through hard experience. For example, in one case, the installation of an additional guy wire by a communications company—about as minor a change as one can imagine—led to the fatal explosion of a gas line in St. Cloud, Minnesota. The NTSB recommended that APWA advise its members to review and revise anchor installation procedures. http://ww2.apwa.net/documents/ResourceCenter/NTSB.pdf. It would be reckless for the Commission to act on the assumption that these issues can be ignored, or addressed at whatever speed the Commission deems appropriate.

property like city-owned light poles. For example, while some State and local governments may find it acceptable to have a single DAS node on such poles, these views could change if this choice also permitted dozens of such structures to line local streets. The choice to allow such "blooming" structures into streets and backyards should remain one for local citizens to make, through political processes at the State and local levels.

3. Federal Rules Could Prevent Flexible Responses to New Issues.

As noted above, any federal rule could create significant compliance costs for local governments.[162] But federal right-of-way practice rules could also significantly stultify and complicate local processes. As suggested above, in many communities, an application is received and processed, and a permit issued subject to a site inspection. The site inspection—which occurs near the time an applicant is ready to commence work—may show that an application that otherwise appeared to be complete was in fact incomplete because it, for example, failed to note sensitive environmental areas, mislabeled structures, or misidentified the location of facilities. The applicant is then given an opportunity to correct the filing. Under federal permitting shot clock rules, a local government could not be so flexible.[163] The local government would often need to automatically dismiss applications to avoid legal consequences. A federal rule would also likely exacerbate sloppy practices by some communications companies: if a federal legal

[162] For example, as the Montgomery County Comments explain, after the Commission created its wireless facility "shot clock" rule, it was forced to hire additional staff to ensure applications are processed consistent with the Commission's rules. We note that a "one-size-fits-all" rule for activities qualifying as "right-of-way practices" would be even more problematic because of the range of activities this term reaches, the fact-specific determinations that these practices require, and the different local needs that the practices serve.

[163] While the Commission may assume that companies have an incentive to file a proper application the first time, the construction and permitting process is often handled by subcontractors paid in part based on applications filed, not their completeness. These companies have different incentives, and a Commission timeline plays to those incentives. In Montgomery County, almost 40% of the wireless applications filed in 2010 were incomplete.

threat can be used, why bother to learn local practices?[164] And a federal regime would prevent local governments from adopting new approaches to new issues.

B. The Commission Can Highlight Effective Local Practices, Encourage Cooperation, and Assist by Addressing Issues That Local Governments Cannot.

While Commission regulation of these local practices would be destructive and ineffective, the Commission also asks if it should address the practices "through educational efforts and voluntary activities." A collaborative approach offers promise.

1. The Commission Should Activate the IAC.

As a first step, the Commission should activate the Intergovernmental Advisory Committee. This will allow the Commission to use its resources cost-effectively to build upon and encourage local efforts, and to work in partnership with local governments. The Commission should also revisit the National Broadband Plan's Recommendation 6.6. That recommendation calls on the Commission to convene a joint task force consisting of experts from "state, local and Tribal authorities" to discuss right-of-way practices. To date, the Commission has taken no action on this recommendation. The IAC and Task Force are not duplicative—the latter promised to bring forward expertise on a single issue, while the former may assist the Commission on a broad range of deployment issues. Activating the IAC and the Task Force may not only facilitate Commission understanding of local right-of-way practices. It could also allow States, local governments, and the Commission to leverage their resources to devise programs that are likely to encourage broadband deployment and adoption.[165]

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[164] Morehead Declaration ¶ 7.

[165] The Commission, for example, is considering developing a web-based application that local governments could use to coordinate excavations. In fact, many local governments already have such mechanisms in place, and the problems associated with those mechanisms may not be solved by a web-based application. Morehead Declaration at ¶ 12. Any such application is likely

2. The Commission Should Foster a Spirit of Cooperation Between Broadband Providers and Local Governments.

The IAC and the Task Force would be in a position to work with the Commission to explore potential avenues for fostering a spirit of cooperation between broadband providers and local governments. Among other things, these entities could discuss the possibility of implementing a strictly voluntary mediation program modeled after the process that the LSGAC and CTIA developed in 1998. Both local government and industry associations would provide the Commission with the names of local government volunteers, and, should a dispute arise, any party could contact the Commission to request a mediator. This would not be comparable to a court-ordered mediation with formal position papers and long meetings. Rather, the industry volunteer would speak to the industry applicant to understand its position, and the local government volunteer would do the same with the affected local government representative. The two mediators would then speak and see if they could reach a consensus on recommendations. The recommendations would, of course, be non-binding, and all parties would reserve their legal rights to seek other remedies.

3. The Commission Should Highlight Effective Local Right-of-Way Practices and Enhance Public Education Efforts on Communications Issues.

The IAC and the Task Force could also advise the Commission of areas where it can bring its expertise to bear in a way that will encourage public support for broadband deployment and adoption.

For example, the Communications Act tasks the Commission with responsibility to address a single issue under the local zoning process: the environmental effects of

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to be more effective if developed after a review of existing procedures and models. And that may be most effectively done through collaboration with the IAC and the Task Force.

radiofrequency emissions. Although local governments can only play a limited role in this area, members of the public regularly—and often passionately—raise this issue before local officials in zoning proceedings. Indeed, providers sometimes withdraw applications based on community opposition notwithstanding local approval of the planned construction. The Commission should position itself as a more prominent and reliable information source for these concerned citizens. As part of this effort, the Commission should:

- Identify Commission staff that any concerned citizens should call;
- Prominently address the issue on the Commission's website; and
- Regularly re-visit its rules in light of the latest developments.

If the Commission can assure the public that concerns on these issues have been heard and are being addressed, opposition to facility placement may be diminished.

The Commission and the local government representatives could work together to develop effective means of leveraging existing educational resources. This may involve providing educational resources to the public and the industry on key issues, and affirming the importance of complying with local right-of-way practices.

Although the Commission's expertise is communications technology and not public works or land use, the Commission is well-positioned to attract and convene outside experts—including APWA members—to speak on these issues. For example, in its February 2011 symposium on broadband acceleration, the Commission brought together experts from industry and government in a public setting to discuss broadband deployment. The Commission could continue to follow this model in the future, provided that it recognizes two key points: (1) local right-of-way practices are designed to serve interests and industries beyond the interests of the communications industry; and (2) the Commission's role is to highlight effective local work, not to re-invent it. Through these and similar efforts, the Commission can recognize States and local

governments that use innovative right-of-way practices, especially those that involve joint public-private initiatives. The Commission's goal should not be to mandate uniformity or to criticize communities that use alternative approaches; as noted, one of the virtues of right-of-way practices is that they are community-tailored, not "one-size-fits-all." Instead, the goal should be simpler: to shine a light on what has worked in some settings.

4. The Commission Should Move Forward On Other Actions That Could Encourage Deployment.

Finally, the National Associations urge the Commission to focus on actions that will genuinely "reduce the costs and time required for broadband deployment." To date, the Commission has done little to address broadband adoption by examining digital literacy, low broadband service quality, affordability, and lack of access to computers. Nor has the Commission examined industry-backed legislative initiatives that have severely curtailed local governments' ability to provide broadband services in communities that private providers have no economic incentive to serve; the most recent example being the so-called Time Warner bill in North Carolina.[166] And the Commission has not completed important work to facilitate broadband deployment in rural areas. The National Associations stand ready to work with the Commission in carrying out this work.

VI. THE COMMISSION'S REGULATION OF LOCAL RIGHT-OF-WAY PRACTICES WOULD DEFY THE COMMUNICATIONS ACT AND THE CONSTITUTION.

The Commission asks whether it has the legal authority to regulate local right-of-way practices.[167] It does not. Federal regulation of these local practices would defy Congress's

[166] N.C. House Bill 129; S.C. 2011-84 (effective 5/21/2011).

[167] NOI ¶¶ 51-58. The question of whether the Commission may regulate wireless siting is, of course, before the Fifth Circuit and need not be addressed.

deliberate allocation of authority under the Communications Act, and would raise serious constitutional issues.

A. Regulation of Local Right-of-Way Practices Would Run Afoul of the Communications Act.

The Communications Act itself does not support Commission regulation of local right-of-way practices. The Act does not inherently give the Commission authority to regulate facilities merely because the facilities are used or useful in connection with the provision of communications services.[168] Indeed, precisely because of this, the Commission recommended that Congress adopt what is now Section 224 of the Communications Act. It gives the Commission jurisdiction over certain utility rights-of-way, poles or conduit, but expressly excludes authority over rights-of-way, poles or conduit owned by any State or its political subdivision. In order to regulate these matters, the Commission would also require an additional and specific grant of authority.[169] Yet, the Communications Act only arguably addresses these matters in two clauses that expressly preserve local authority.

1. Section 253 Preserves State and Local Authority To Mange the Rights-of-Way and To Require Fair and Reasonable Compensation for Its Use.

In Section 253 of the Communications Act, Congress addressed the issue at the heart of the NOI: "Barriers to entry" created by State and local legal requirements. But critically, Congress addressed these local practices very narrowly. It did not authorize the Commission to preempt a State or local fee if the Commission decided the fee were unreasonable. It did not

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[168] *Ill. Citizens Comm. for Broad. v. FCC*, 467 F.2d 1397, 1400 (7th Cir. 1972) (avoiding a reading of the Act that would "expand[ ] the FCC's already substantial responsibilities to include a wide range of activities, whether or not actually involving the transmission of radio or television signals").

[169] Telecommunications Act of 1996, P.L. No. 104-104, 101 Stat. 56, § 601(c) (noting that the law does not modify, impair, or supersede State and local laws except as specifically provided therein).

direct the Commission to accelerate right-of-way management or to oversee local compensation. Nor did it preempt local requirements that might delay or impede the provision of service. Instead, Congress only preempted local requirements that cause a specific effect: the effect of "prohibiting" the ability to provide telecommunications services.[170] In addition, Congress adopted a safe harbor to preserve certain local right-of-way requirements even if they were to run afoul of this requirement.

Section 253's only preemptive language appears in subsection (a):

> **(a) In general**
>
> No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

If a local requirement were to violate subsection (a), it would still be lawful if it qualified under the safe harbors provided by subsections (b) or (c):

> **(b) State regulatory authority**
>
> Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis and consistent with section 254 of this title, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.
>
> **(c) State and local government authority**
>
> Nothing in this section affects the authority of a State or local government to manage the public rights-of-way or to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and nondiscriminatory basis, for use of

[170] For example, a fee could be discriminatory or unreasonable and still be lawful under Section 253—provided that it does not have a prohibitory "effect." Such a fee is easy to imagine. Suppose a local government charged a $1 fee for an application written in black ink, and a $2 fee for an application written in blue ink. This might not be justified on any basis; it might be discriminatory; but it would not be prohibitory. The challenge to the fee, if any, would lie under State law. Congress chose to avoid preemption where it is not critical to ensure market entry.

> public rights-of-way on a nondiscriminatory basis, if the compensation required is publicly disclosed by such government.

Subsection (d) then clarifies the Commission's role by providing that the Commission may only address issues under subsection (a) and (b), not subsection (c):

> **(d) Preemption**
>
> If, after notice and an opportunity for public comment, the Commission determines that a State or local government has permitted or imposed any statute, regulation, or legal requirement that violates subsection (a) or (b) of this section, the Commission shall preempt the enforcement of such statute, regulation, or legal requirement to the extent necessary to correct such violation or inconsistency.

Even as to matters it may address, the Commission may only preempt; it may not regulate.[171] In light of the Commission's inquiry whether it may limit local right-of-way "compensation" and other charges (it clearly may not),[172] a number of important points about Section 253 merit separate discussion:

a. Section 253 Only Preempts "Prohibitions," Not Particular Fees or Practices.

That the test for federal preemption under Section 253 is *not* the reasonableness of local right-of-way compensation schemes or management practices "is clear."[173] Subsection (a) "is the only portion of section 253 that broadly limits the ability of states to regulate. All of the

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[171] The Commission is also given no authority over a local government's proprietary actions.

[172] NOI ¶¶ 16, 57.

[173] *BellSouth Telecomns., Inc. v. Town of Palm Beach*, 252 F.3d 1169, 1188 (11th Cir. 2001) *citing In re Missouri Municipal League*, 16 FCC Rcd. 1157, 2001 WL 28068 (2001) ("it is clear that (b) and (c) are exceptions to (a), rather than separate limitations on state and local authority in addition to those in (a)."); *In re Minnesota*, 14 FCC Rcd. 21,697, 21,730 (1999); *In re American Communications Servs., Inc.*, 14 FCC Rcd. 21,579, 21,587-88 (1999); *In re Cal. Payphone Ass'n*, 12 FCC Rcd. 14,191, 14,203 (1997).

remaining subsections . . . carve out defined areas in which states may regulate."[174] Instead of regulating local fees and practices, Section 253's focus is much narrower: it seeks to preempt State and local regulatory systems that grant or have the effect of granting telephone monopolies:

> Congress apparently feared that some states and municipalities might prefer to maintain monopoly status of certain providers, on the belief that a single regulated provider would provide better or more universal service. § 253(a) takes that choice away from them, thus preventing state and local governments from standing in the way of Congress' new free market vision.[175]

The statute is designed to "end[ ] the States' longstanding practice of granting and maintaining local exchange monopolies."[176] As one court recently recognized, Section 253(a) is not concerned with franchise fees, but with local government actions that keep entities out of the market: "[A] municipality's assessment of a fee for franchise rights, and the franchisee's rights being conditioned on the payment of this fee 'cannot 'be described as a prohibition within the meaning of section 253(a) . . . ."[177]

This is fundamentally different from a statute that fixes federal prices or practices for State and local property. Indeed, the Act has a number of rate regulation provisions,[178] and it specifically empowers the Commission to regulate the rates for the placement of facilities in

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[174] Brief for the United States as *Amicus Curiae*, *Level 3 Comms. LLC v. City of St. Louis*, (U.S. Nos. 08-626, 08-759) (May 2009) (quoting *In the Public Utilities Commission of Texas, "Texas PUC Order*," 13 FCC Rcd. 3460 at 3481 ¶ 44.).

[175] *Cablevision of Boston, Inc. v. Pub. Improvement Comm'n*, 184 F.3d 88, 97-98 (1st Cir. 1999).

[176] *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 405 (1999) (Thomas, J., concurring in part, dissenting in part).

[177] *City of New Orleans v. Bellsouth Telecomms. Inc.*, 2011 U.S. Dist. LEXIS 60925 at *20 (E.D. La. 2011) (quoting *TCG Detroit v. City of Dearborn*, 206 F.3d 618, 624 (6th Cir. 2000)).

[178] *See, e.g.,* 47 U.S.C. § 543.

certain non-public rights-of-way.[179] But under Section 253, the only measure of preemption is not how a local government charges for or manages its property, but only whether the requirement has a particular "effect"—the effect of "prohibiting the ability to provide service." The Commission has rightly focused its analysis on this particular "result."[180] It cannot, therefore, regulate rights-of-way, or right-of-way compensation merely because it wishes to make it simpler and cheaper for broadband providers to enter the market.[181]

b. Section 253 Expressly Preserves Local Authority to Impose Reasonable Compensation and Management Requirements.

In addition to only preempting local requirements that "prohibit" or have that "effect," Section 253(c) specifically preserves local authority to manage the rights-of-way and to recover fair and reasonable right-of-way compensation.

With respect to compensation, Congress recognized that "[t]he right-of-way is the most valuable of real estate the public owns,"[182] and it made an affirmative decision to clarify that nothing in Section 253 would limit State and local governments' ability to recover this value. In the first place, the Commission lacks authority to determine what is fair and reasonable compensation, given the limits on its jurisdiction reinforced by Section 253(d).[183] But in any event, it is clear that Congress intended to give local governments broad authority to set prices,

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[179] 47 U.S.C. § 224(b)(1) (directing Commission to "regulate the rates, terms, and conditions for" the placement of facilities in rights-of-ways *not* owned by a state or local government).

[180] *Texas PUC Order*, 13 FCC Rcd. at 3480 ¶ 41 (noting that the "goal of opening local markets to competition" can be frustrated "[by] express restrictions on entry," and "[by] restrictions that indirectly produce *that result*") (emphasis added).

[181] *Iowa Utilities Board*, 525 U.S. at 389-390 (Commission cannot interpret "impair" to allow it to intercede whenever it believes doing so would encourage competition).

[182] 141 Cong. Rec. S8134, *S8170 (statement of Sen. Feinstein). *See* TeleCommUnity, *Valuation of the Public Rights-of-Way Asset*, attached hereto at Exhibit I.

[183] *See infra* at Part VI.A.1.c.

and that it intended to allow local governments to recover more than its out-of-pocket costs from private profit-seeking corporations.

The House initially weighed a "parity" provision that would have required local governments to charge all telecommunication providers equal fees. The Barton-Stupak amendment was offered in response. According to its sponsor, Representative Barton, it "explicitly guarantees that cities and local governments have the right to not only control access within their city limits, but also to set the compensation level for use of [the] right[s]-of-way."[184] Under the amendment, the federal government could not tell State and local governments how to price their property:

> The Federal Government has *absolutely no business* telling State and local government how to price access to their local right-of-way. We should vote for localism and vote against *any kind* of federal price controls.[185]

Even the amendment's opponents admitted that, under the amendment, local governments were not limited to the recovery of costs. For example, Representative Schaefer acknowledged that local governments were already entitled to freely charge for rent; the parity amendment, he suggested, merely required them to charge each provider on an equal basis:

> The bill philosophy on this issue is simple: *Cities may charge as much or as little as they wanted* in franchise fees. As long as they charge all competitors equal, the [Barton-Stupak] amendment eliminates that yet critical requirement.[186]

Representative Bliley echoed: "What we say is *charge what you will*, but do not discriminate. If you charge the cable company 8 percent, charge the phone company 8 percent,

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[184] 141 Cong. Rec. H8460 (daily ed. Aug. 4, 1995).

[185] *Id.* (emphasis added). Representative Stupak later added, "[W]e have heard a lot from the other side about gross revenues…. The other side is trying to tell us what is best for our local units of government. Let local units of government decide this issue." *Id.* at H8461.

[186] *Id.* at H8461 (emphasis added).

but do not discriminate."[187] Likewise, Representative Fields lamented that failing to pass the parity amendment would allow local governments to continue to require "large gross revenue assessments [that] bear no relation to the cost of using a right-of-way."[188]

The House overwhelmingly rejected the parity approach and adopted the Barton-Stupak amendment—its language virtually identical to that which ultimately became Section 253(c)[189]—by a lopsided 338-86 margin. Several federal courts have recognized that the significance of this legislative history in finding that compensation was not limited to costs – and could include fees established on another basis, including a gross revenues basis.[190] It is rare to find as clear—and as unanimous - a statement as to a term's meaning.[191] Nor can it be argued that fees that are set on some basis other than cost are inherently unreasonable. Courts have recognized that gross revenues based fees fairly reflect the value of rights-of-way.[192]

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[187] *Id.* (emphasis added).

[188] Id.

[189] 141 Cong. Rec. H8477. The language of the Barton-Stupak amendment was virtually identical to that which ultimately came out of the conference committee as Section 253(c). See H.R. Rep. No. 104-458 at 126-127.

[190] *TCG Detroit v. City of Dearborn*, 206 F.3d 618, 624-25 (6th Cir. 2000); *City of Portland v. Elec. Lightwave, Inc.*, 452 F. Supp. 2d 1049 (D. Or. 2005). *See also Qwest Corp. v. City of Santa Fe*, 224 F. Supp. 2d 1305 (D.N.M. 2002), *aff'd in part, Qwest v. City of Santa Fe*, 380 F.3d 1258 (10th Cir. 2004) (not limiting fees to costs, but finding City failed to show its appraisal methodology was reasonable).

[191] In 2004, Senator Hutchison—the sponsor of the Barton-Stupak language in the Senate—showed that Congress had not preempted non-cost based right-of-way fees in Section 253. She introduced an amendment to the Internet Tax Nondiscrimination Act, S. 150, to exempt a variety of public right-of-way fees, including "an access line fee, a franchise fee, license fee, or gross receipts or gross revenue fee." 150 Cong. Rec. S4402-0, *4405 (daily ed. April 27, 2004).

[192] *See, e.g.*, *Florida Power Corp. v. City of Winter Park*, 887 So. 2d 1237, 1240-41 (Fla. 2004). A company that places a facility in an area that has many high-volume users (*e.g.*, downtown Manhattan) is likely to earn more revenues—a reflection of the value of the rights-of-way. In a rural area, with few customers, revenues are likely to be lower, reflecting the lower value of the rights-of-way. The Commission asks whether local governments assess the value of the rights-

With respect to local right-of-way management practices, the legislative history is equally clear that Congress did not intend to interfere. While early versions of the House bill contained language limiting the manner in which local governments could manage their rights-of-way,[193] such limits were rejected because Congress concluded it would be inappropriate to second-guess right-of-way management decisions, which "are a matter of primarily local concern."[194]

c. Section 253(d) Bars the Commission from Addressing Local Right-of-Way Practices or Fees.

Section 253(d) clarifies that the Commission may not address right-of-way practices or fees. Congress adopted subsection 253(d) in Conference, based on Section 254 of the Senate Bill.[195] As Senator Feinstein explained, the original version of Section 254(d) would not only have forced local governments to defend their right-of-way practices in Washington D.C. It would also have altered the federal court's legal analysis in those cases, by requiring the court to defer to the Commission's views on these matters:

> The preemption gives any communications company the right, if they disagree with a law or regulation put forward by a State, county, or a city, to appeal that to the FCC. That means that cities will have to send delegations of city attorneys to Washington to go before a panel of telecommunications specialist at the FCC, on what may be very broad questions of State or local government rights. . . . If the preemption provision remains, a city would be forced to challenge the FCC ruling to gain a fair hearing in Federal court. This is important because presently they can go directly to their local Federal court. . . . Further, the Federal court *will*

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of-way used. NOI ¶ 18. For communities that impose a gross revenues based fee, the answer is that the method inherently does so. See ECONorthwest Report at 18.

[193] *See, e.g.*, H.R. 1555, 104th Cong. (1995), as introduced May 3, 1995 (protecting *permitting* requirements that met certain defined tests).

[194] 141 Cong. Rec. S8306 (daily ed. June 14, 1995) (statement of Sen. Gorton); see also 141 Cong. Rec. S8170-S8175 (daily ed. June 12, 1995)

[195] The House provision did not contain any preemption provision at all. H.R. Conf. Rep. No. 458, 104th Cong., 2d Sess. 126-27 (1996). Thus, the history of the provision must be found in the Senate bill, S. 652, rather than in the House version.

> *evaluate a very different legal question—whether the FCC abused their discretion in reaching its determination*. . . . By contrast, if no preemption exists, the cable company may challenge the city or State action directly in the locality and the court will review *whether the city or State acted reasonably under the circumstances*.[196]

After Senator Feinstein proposed striking subsection (d) in its entirety to prevent this result, Senator Gorton urged a compromise that would retain subsection (d), but revise it to extend FCC jurisdiction only to subsections (a) and (b), not subsection (c).[197] Senator Gorton's amendment was adopted by unanimous consent.[198] Senator Gorton stated:

> There is no preemption . . . for subsection (c), which is entitled, "Local Government Authority," and which preserves to local governments control over their public right of way. It accepts the proposition from [Senators Feinstein and Kempthorne] that these local powers should be retained locally, that any challenge to them take place in the Federal district court in that locality and that the Federal Communications Commission not be able to preempt such actions.[199]

Consequently, Congress deliberately removed the FCC's authority in this area. Based on this, three federal circuit courts have concluded that Congress stripped the FCC of jurisdiction to decide Section 253(c) issues.[200]

d. Section 253(c) Does Not Mandate Precise Parity of Treatment.

Although Section 253(a) does not require local governments to treat telecommunications service providers equally, courts have sometimes considered non-discrimination issues in

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[196] 141 Cong. Rec. S8170-71 (daily ed. June 12, 1995) (statement of Sen. Feinstein) (emphasis added). Senator Feinstein submitted a letter for the record from the City Attorney of Los Angeles, California, contending, among other things, that Commission decisions on these issues should not be subject to deferential review. *Id.* at S8171.

[197] *Id.* at S8306.

[198] *Id.* at S8308.

[199] 141 Cong. Rec. S8213 (daily ed. July 13, 1995) (remarks of Sen. Gorton) (emphasis added).

[200] *Town of Palm Beach*, 252 F.3d at 1177; *TCG Detroit v. City of Dearborn*, 206 F.3d 618 (6th Cir. 2000); *Qwest Corp. v. City of Santa Fe*, 380 F.3d 1258 (10th Cir. 2004).

deciding whether the Section 253(c) safe harbor for compensation applies. The courts have rightly concluded that the safe harbor does not require precise parity of treatment. Every difference in treatment does not rise to the level of discrimination.[201] Local governments "may, of course, make distinctions that result in the de facto application of different rules to different service providers so long as the distinctions are based on valid considerations."[202] Section 253 is not inflexible; it does not require precise parity of treatment.[203] Local governments can take into account the scale of the use of rights-of-way by different providers and they retain the flexibility to adopt mutually beneficial agreements for in-kind compensation. Neutrally applied most-favored-vendee provisions that require service providers to offer their best rates and requirements that service providers allow the free use of conduit space are at least potentially permissible.[204] And "a city can negotiate different agreements with different service providers; thus, a city could enter into competitively neutral agreements where one service provider would provide the city with below-market-rate telecommunications services and another service provider would have to pay a larger franchise fee, provided the effect is a rough parity between competitors."[205]

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[201] The FCC has clearly recognized this principle in carrier discrimination cases. *In re Development of Operational, Technical and Spectrum Requirements*, 15 FCC Rcd. 16,720 at ¶ 23 (2000) (recognizing it is not unlawful discrimination to "differentiate among users so long as there is a valid reason for doing so"); *see also Competitive Telecommunications Ass'n v. F.C.C.*, 998 F.2d 1058, 1064 (D.C. Cir. 1993).

[202] *New Jersey Payphone Ass'n v. Town of W. N.Y.*, 299 F.3d 235, 247 (3d Cir. 2002).

[203] *TCG N.Y. v. City of White Plains*, 305 F.3d 67, 79 (2d Cir. 2002).

[204] *Id.* at 80.

[205] *Id.*

2. Section 332(c)(7) Preserves State and Local Authority To Manage the Placement of Personal Wireless Service Facilities.

With respect to the placement of personal wireless facilities in local communities, Congress adopted another preservation clause: Section 332(c)(7).[206] Titled "Preservation of Local Zoning Authority," the statute subjects the State and local zoning process to five limitations, but only authorizes the FCC to address one (environmental effects of RF emissions). All other issues are left to the courts based on local facts and circumstances. The Commission's authority to adopt rules under Section 332(c)(7) is currently under review before the Court of Appeals for the Fifth Circuit.[207] Until the court releases its decision, the Commission should certainly not take any action here. On its face, Section 332(c)(7) greatly limits the Commission's authority in this area, for reasons already briefed extensively before the Fifth Circuit

3. The Commission May Not Rely on Section 706 of the 1996 Act To Expand Its Jurisdiction.

While it has interpreted the language of Section 706 of the Telecommunications Act of 1996 broadly, the Commission has expressly recognized that it does not "trump specific mandates of the Communications Act."[208] The Commission's authority under Section 706(a) does not "extend beyond [its] subject matter jurisdiction under the Communications Act."[209] Because Sections 253 and 332(c)(7) expressly limit the Commission's jurisdiction in these areas,

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[206] 47 U.S.C. § 332(c)(7).

[207] *City of Arlington et al. v. FCC et al.*, No. 10-60039 (submitted for decision June 8, 2011).

[208] *In re Preserving the Open Internet*, Report and Order, FCC 10-201, GN Docket No. 09-191, WC Docket No. 07-52 at ¶¶ 118-119 (Dec. 23, 2010). Of course, the question as to whether the Commission properly interpreted the scope of its authority under Section 706 remains an open one.

[209] *Id.* at ¶ 121.

Section 706(a) cannot expand the Commission's jurisdiction beyond these limitations. Any Commission effort to do so would raise serious concerns under the non-delegation doctrine.[210]

B. Commission Regulation of Local Right-of-Way Practices Would Be Unconstitutional.

If the Commission were to regulate right-of-way practices, it would also raise serious constitutional issues.

1. Limiting Right-of-Way Charges Would Raise Serious Fifth Amendment Concerns.

If the federal government were to require a local government to place a wire on its property without compensation, it would constitute an unlawful taking under the Fifth Amendment.[211] The Supreme Court has clearly recognized a local government's "right to exact compensation" for such property uses:

> [W]hile permission to a telegraph company to occupy the streets is not technically a lease, and does not in terms create the relation of landlord and tenant, yet it is the giving of the exclusive use of real estate, for which the giver has a right to exact compensation, which is in the nature of rental.[212]

And the Court has also held that like private property owners, local governments have the same right to fair market value compensation for the federal government's taking of property as private property owners.[213] It matters not that the intrusion may be relatively slight:

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[210] *Id.*

[211] *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 433 (1982) (state law requiring property owner to permit access to cable company to install lines on private property constituted a taking).

[212] *City of St. Louis v. Western Union Telegraph Co.*, 148 U.S. 92, 99 (1893), *op. on rehrg.*, 149 U.S. 465 (1893); *see also Cities of Dallas and Laredo v. FCC*, 118 F.3d 393, 397-98 (5th Cir. 1997) ("Franchise fees are . . . essentially a form of rent: the price paid to rent use of the public rights-of-ways.").

[213] *United States v. 50 Acres of Land*, 469 U.S. 24 (1984).

> [P]ermanent occupations of land by such installations as telegraph and telephone lines, rails, and underground pipes or wires are takings even if they occupy only relatively insubstantial amounts of space and do not seriously interfere with the landowner's use of the rest of his land.[214]

Reading the Communications Act to permit local governments to set rates avoids most Fifth Amendment concerns. But reading the Act to both compel the government to provide access and to allow the FCC to limit compensation would create significant takings issues.[215]

2. Interfering with Local Right-of-Way Practices Would Raise Serious Issues under the Tenth Amendment and the Guarantee Clause.

The preemption of local right-of-way practices and compensation would also offend the Tenth Amendment and the Guarantee Clause of the Constitution. Under the Tenth Amendment, "[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."[216] As part of the system of "dual sovereignty," the federal government "may not compel the States to enact or administer a federal regulatory program."[217] Even in areas where the federal government has authority to act, the Constitution only authorizes the federal government to regulate individuals, not States.[218] If the Commission were to assume control over right-of-way practices or compel local governments to provide access to rights-of-way on federally-prescribed terms, the Commission would unconstitutionally commandeer the local administration of public property in service of a federal regulatory program.

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[214] *Loretto*, 458 U.S. at 430.

[215] *FCC v. Florida Power Corp.*, 480 U.S. 245 (1987).

[216] U.S. Const. amend. X.

[217] *Printz v. United States*, 521 U.S. 898, 918-19, & 933 (1997) (*quoting New York v. United States*, 505 U.S. 144, 188 (1992)).

[218] *Alden v. Maine*, 527 U.S. 706, 714 (1999) (citing *New York v. United States*, 505 U.S. 144, 166 (1992)).

The preemption of local discretion regarding how to charge for use of its property also raises concerns under the Guarantee Clause.[219] The Guarantee Clause precludes the federal government from interfering with a State's distribution of power among the various levels of government.[220] Where a State has decided to allow local governments to obtain certain fees, the Commission may not undermine the State's decision by leaving the local government without a means to recover that compensation. While the Federal government may use its Commerce Clause authority to limit certain actions of State and local officers, it may not—consistent with the unqualified *guarantee* to the people of the States of "a Republican Form of Government"—curtail the fundamental powers or property rights of local governments as local governments.

[219] U.S. Const., Art. IV, § 4.

[220] *City of Abilene v. FCC*, 164 F.3d 49, 52 (1999) ("interfering with the relationship between a State and its political subdivisions strikes near the heart of State sovereignty").

CONCLUSION

For reasons described above, we urge the Commission to recognize that right-of-way practices do not deter—but facilitate—broadband deployment and adoption, and that federal efforts to regulate and control these practices would pose tremendous risks to the economy and to local communities. The Commission should focus on the true forces impeding broadband deployment and adoption, and it should work *cooperatively* with State and local governments to tackle these issues.

Respectfully submitted,

/s/ Joseph Van Eaton
Best Best & Krieger, LLP
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Joseph Van Eaton
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Gail A. Karish
1155 Connecticut Avenue N.W., Suite 1000
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National League of Cities
1301 Pennsylvania Ave. N.W.
Suite 550
Washington, DC 20004

National Association of Counties
25 Massachusetts Avenue N.W.
Suite 500
Washington, DC 20001

United States Conference of Mayors
1620 Eye Street N.W.
Washington, DC 20006

International Municipal Lawyers Association
7910 Woodmont Ave., Ste 1440
Bethesda, MD 20814

National Association of Telecommunications Officers and Advisors
3213 Duke Street, Suite 695
Alexandria, VA 22314

Government Finance Officers Association of the United States and Canada
203 N. LaSalle Street, Ste 2700
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American Public Works Association
1275 K Street N.W., Suite 750
Washington, DC 20005

International City/County Management Association
777 North Capitol Street N.E.
Suite 500
Washington, DC 20002-4201

July 18, 2011

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Exhibit A

The National League of Cities (NLC)

The National League of Cities (NLC) is dedicated to helping city leaders build better communities. Working in partnership with the 49 state municipal leagues, NLC serves as a resource to and an advocate for the more than 19,000 cities, villages and towns it represents. The unique partnership among NLC, the state municipal leagues, and the elected leaders of the more than 1,600 member cities and 18,000 state league cities provides a powerful network for information sharing and for speaking on behalf of America's cities in Washington, DC and all state capitols.

The National League of Cities provides numerous benefits to its network of state municipal leagues and direct member cities. The National League of Cities:

- advocates for cities and towns in Washington, D.C. through full-time lobbying and grassroots campaigns;
- provides programs and services that give local leaders the tools and knowledge to better serve their communities;
- provides opportunities for involvement and networking to help city officials seek ideas, share solutions, and find common ground for the future;
- keeps leaders informed of critical issues that affect municipalities and warrant action by local officials;
- strengthens leadership skills by offering numerous training and education programs;
- recognizes municipal achievements by gathering and promoting examples of best practices and recognizing cities and towns for model programs and initiatives;
- partners with state leagues to supplement resources and strengthen the voice of local government in the nation’s capital and all state capitols; and,
- promotes cities and towns through an aggressive media and communications program that draws attention to city issues and enhances the national image of local government.

National Association of Counties (NACo)

NACo is the only national organization representing county government. The purposes of the association is to stimulate the continuing improvement of county government; to speak nationally for county government; to contribute to the knowledge and awareness of the heritage and future of county government; to serve as a liaison between the nation's counties and other levels of government; and to achieve public understanding of the role of counties in the federal system.

NACo's consolidated family is a group of corporations organized to provide services and products for county government elected officials, administrators, employees and residents. NACo's Bylaws govern how the association is run, detailing its object and purpose and the structure and responsibilities of the Board of Directors, the Executive Committee and the membership.

The United States Conference of Mayors (USCM)

The U.S. Conference of Mayors (USCM) is the official nonpartisan organization of cities with populations of 30,000 or more. There are 1,192 such cities in the country today. Each city is represented in the Conference by its chief elected official, the mayor.

The primary roles of The U.S. Conference of Mayors are to:

- Promote the development of effective national urban/suburban policy;
- Strengthen federal-city relationships;
- Ensure that federal policy meets urban needs;
- Provide mayors with leadership and management tools; and
- Create a forum in which mayors can share ideas and information.

Conference members speak with a united voice on organizational policies and goals. Mayors contribute to the development of national urban policy by serving on one or more of the Conference's standing committees. Conference policies and programs are developed and guided by an Executive Committee and Advisory Board, as well as the standing committees and task forces which are formed to meet changing needs.

During the Conference's Annual Meeting in June, standing committees recommend policy positions they believe should be adopted by the organization. At this time, every member attending the annual meeting is given the opportunity to discuss and then vote on each policy resolution. Each city, represented by its mayor, casts one vote.

The policy positions adopted at the annual meeting collectively represent the views of the nation's mayors and are distributed to the President of the United States and Congress.

The International Municipal Lawyers Association (IMLA)

IMLA is a non-profit, professional organization of over 3,500 local government entities, including cities, counties, and special district entities, as represented by their chief legal officers, state municipal leagues, and individual attorneys. Since 1935, IMLA has served as a national, and now international, clearinghouse of legal information and cooperation of municipal legal matters. IMLA's mission is to advance the responsible development of municipal law through education and advocacy by providing the collective viewpoint of local governments around the country on legal issues before the United States Supreme Court, in the United States Courts of Appeals, and in state supreme and appellate courts.

The National Association of Telecommunications Officers and Advisors (NATOA)

The National Association of Telecommunications Officers and Advisors (NATOA) is the premier local government professional association that provides support to our members on the many local, state, and federal communications laws, administrative rulings, judicial decisions, and technology issues impacting the interests of local governments. Founded in 1980, we offer a wide range of advocacy services to individual and agency members representing cities, towns, counties and commissions across the country. NATOA actively analyzes and addresses emerging issues in areas such as:

Local Government Communications and Internet Policy
• Network neutrality
• Consumer protection
• National Broadband Plan, access, and funding
• Public safety spectrum
• Universal service
• Public rights-of way management and policies
• Service to anchor institutions like city halls, police and fire stations, schools, libraries, universities, hospitals, county services, courts, and community centers.
• Emergency alert systems
• Local government networks, wired, wireless, fiber and coaxial

Broadband Planning Best Practices
• National Broadband Plan
• Broadband stimulus funding
• Internet technology
• Speed and access

Cable Franchising
• Use and management of public rights-of-way
• Franchise agreements and renewals
• Regulation of rates and service standards
• State franchising laws in lieu of local oversight
• Institutional Networks (I-Nets)

Wireless Zoning
• Land use laws and enforcement
• Tower and other facility siting application and review
• Co-location issues on poles and other structures in the public rights-of-way
• Contracts for private use of public property and buildings
• Preventing and resolving interference
• Radio frequency emissions safety

New Technology Initiatives and Advancements
• Strengthening your advocacy through local communications initiatives
• Digital transition of PEG programming
• Web 2.0 and beyond
• Social media strategies
• Use of wireless networks
• Converging technologies - impact on your laws

Operation of Public, Education and Government (PEG) Access Channels
• PEG programming
• PEG funding
• PEG management, training and production

The American Public Works Association (APWA)

The American Public Works Association (APWA) serves professionals in all aspects of public works—a fact that sets it apart from other organizations and makes it an effective voice of public works throughout North America. With a worldwide membership over 28,000 strong, APWA includes not only personnel from local, county, state/province, and federal agencies, but also private sector personnel who supply products and services to those professionals.

Membership in APWA is open to any individual, agency, or corporation with an interest in public works and infrastructure issues. Titles common to the membership include public works directors; city engineers; city managers; fleet managers; property and equipment superintendents; utilities managers; community development directors; transportation managers; park directors; county officials; and representatives from engineering and other consulting firms, manufacturers, construction companies, and a multitude of other service providers.

Although originally chartered in the United States in 1937, APWA has roots in two predecessor groups that reach back to 1894, and has 63 chapters in North America, which includes eight chapters in Canada. The Canadian Public Works Association (CPWA) or Association Canadienne des Travaux Publics, was founded in 1986, and is governed by an 8-member Board of Directors (one representative from each chapter in Canada). Members of CPWA are automatically members of APWA. A 17-member Board of Directors, all of whom are elected by Association members, governs APWA as a whole.

As a comprehensive public works resource, APWA continues in its rich tradition of making a difference both on an individual and professional level. APWA is a not-for-profit, 501 (c) (3)

organization that prides itself on its ability to provide varied educational and networking opportunities that help public works personnel to grow in their professionalism and directly impact the quality of life in all the communities they serve.

International City/County Management Association (ICMA)

The International City/County Management Association (ICMA) advances local government worldwide by developing and fostering professional management. ICMA has nearly 9,000 members whose decisions affect millions of individuals living in thousands of communities from small villages and towns to large metropolitan areas.

ICMA's primary audience is professional city, town, and county managers and administrators who are appointed by elected officials to oversee the day-to-day operations of our communities. ICMA members adhere to the principles of the ICMA Code of Ethics as a condition of membership and agree to submit to a peer-to-peer review of their conduct under established enforcement procedures.

Core activities include:

- Advocacy of good governance, bringing the local government perspective to national policy debates;
- Annual Conference and other professional development opportunities, including ethics training, voluntary credentialing and career services;
- Networking at conferences, meetings, and web events, along with on-line interactions on the *Local government Knowledge Network* connect the local government community with current data and information;
- Publisher of textbooks, practitioner books, electronic reports, survey research, training materials, and other resources used by local government management professionals, municipal and county associations, and colleges and universities;
- Peer Assistance to local governments in areas such as sustainability, public safety, efficiency in service delivery, citizen engagement, and performance management.

Exhibit B

February 25, 2011
via email

Representative Thom Tillis
Speaker of the House
Room 2304
16 West Jones Street
Raleigh, NC 27601-1096

Senator Phil Berger
Senate President Pro Tempore
Room 2008
16 W. Jones Street
Raleigh, NC 27601-2808

Dear Representative Tillis and Senator Berger:

We, the undersigned private-sector companies and trade associations, urge you to **oppose H129/S87 (Level Playing Field/Local Competition bill)** because it will harm both the public and private sectors, stifle economic growth, prevent the creation or retention of thousands of jobs, hamper work force development and diminish the quality of life in North Carolina. In particular, this bill will hurt the private sector in several ways: by curtailing public-private partnerships, stifling private companies that sell equipment and services to public broadband providers, and impairing educational and occupational opportunities that contribute to a skilled workforce from which businesses across the state will benefit.

The United States continues to suffer through one of the most serious economic crises in decades. The private sector alone cannot lift the United States out of this crisis. As a result, federal and state efforts are taking place across the Nation to deploy both private and public broadband infrastructure to stimulate and support economic development and jobs, especially in economically distressed areas. North Carolina has been the beneficiary of

these efforts, as MCNC, with its $148 million award, is now building a state-of-the-art fiber optic network that will cross 106 counties and make available low-cost, internet connections to numerous high-cost, low-density, communities that the state's private providers have chosen not to serve. H129/S87, with its burdensome financial and regulatory requirements, will prevent public broadband providers from building the sorely needed advanced broadband infrastructure that will stimulate local businesses development, work force retraining and employment in these economically depressed areas.

Consistent with these expressions of national unity, public entities across America, including North Carolina, are doing their share to bring affordable high-capacity broadband connectivity to all Americans. Enactment of direct or effective barriers to municipal broadband such as H129/S87 would be counterproductive to the achievement of these goals. It would also be inconsistent with our country's National Broadband Plan, which recommends that no new barriers be enacted and that existing barriers be removed.

We support strong, fair and open competition to ensure that users can enjoy the widest range of choices and opportunities. H129/S87 is a step in the wrong direction. North Carolina should be removing barriers to public broadband initiatives rather than establishing new ones, so that high technology companies can spread and prosper into all the communities in this beautiful state. Please oppose H129 and S87, and any other measures that may emerge that would significantly impair municipal broadband deployments or public-private partnerships in North Carolina.

Sincerely,

Alcatel-Lucent, American Public Power Association, Atlantic-Engineering, the Fiber to the Home Council, Google, Intel, OnTrac, Telecommunications Industry Association, and Utilities Telecom Council.

cc: Governor Beverly Perdue
Secretary of Commerce J. Keith Crisco
Rep. Avila (H129 House Sponsor)
Rep Joe Hackney, House Minority Leader
Senator Apodaca, (H87 Senate Sponsor)
Senator Martin Nesbitt Jr., Senate Democratic Leader
House and Senate Committees

May 25, 2010

Ruth Milkman
Bureau Chief
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Wireless Facilities Siting Order*, WT Docket No. 08-165

Bureau Chief Milkman:

The National Association of Telecommunications Officers and Advisors ("NATOA") submits this letter to request that the Commission initiate a proceeding in the above-referenced docket that would analyze the impact of the November 18, 2009 Declaratory Ruling.[1]

We applaud the Commission's determination to make "data driven" decisions and its dedication to continually analyze actions taken to ensure that these actions have their intended effect. And, on behalf of NATOA, I urge the Commission to now analyze the impact of the Declaratory Ruling on wireless facilities siting decisions.

Last week, the deadline for a wireless facilities siting applicant to file suit against a local zoning authority for failing to act on an application pending prior to November 18, 2009 passed (assuming the deadline was not extended by mutual consent). Thus, all of the relevant deadlines for applications pending prior to the Declaratory Ruling's release have now passed.

Anecdotally, NATOA has learned of only one instance of a suit being filed (and no instances of threats of a suit) based on the Declaratory Ruling. While we do not assert we conducted a statistically accurate survey of all units of local government, the lack of activity either in news reports or informal forms of communications suggests the problem asserted by the industry was overstated.

The Commission frequently cited industry statistics that more than 3300 applications remained pending at the time of the order (and 760 were allegedly pending for more than one year). We are not asking at this point for the Commission to re-open the tower siting proceeding, or to expand the pending reconsideration. Rather, we think that collecting the data

[1] *In the Matter of 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*, FCC 09-99, WT Docket No. 08-165

and analyzing its impact may help the Commission as it considers actions in other related proceedings, or future steps to implement the National Broadband Plan.

With this letter, we simply ask the Bureau to act quickly on the pending reconsideration motion to clarify an important administrative detail of the FCC's order, and to initiate a new and separate proceeding to gather the data needed to assess exactly how many suits have been filed and the circumstances behind those suits (and more importantly, the pending applications that did not result in the filing of a suit).

The Commission should ask parties who filed comments in favor of a "shot clock" for wireless facilities siting decisions to advise the Commission (1) as to the specifics of the applications that were pending at the time of the order; (2) any suits they have filed under the Declaratory Ruling and (3) the specifics of any situations where suit was not filed, but the party believes the Declaratory Ruling was central to getting a local zoning authority to move forward with an application.

In such a proceeding, we ask that the Commission require that parties include the specific details about the application at issue including clearly identifying the local zoning authority by name. Parties should also be required to provide notice to each named zoning authority so that they are given an adequate opportunity to respond. Responses in this proceeding that do not identify the local zoning authority discussed and that do not provide notice to that entity should not be considered by the Bureau in analyzing the effect of the Declaratory Ruling on the wireless facilities siting process in fact.

Furthermore, NATOA remains concerned that the original proceeding provided the industry with the opportunity to make many claims in the proceeding, with little evidence of their veracity or opportunity to check the accuracy. It would be useful if the FCC sought specific evidence from the industry of the number, by jurisdiction, of applications that were pending for longer than 150 days on the date of the FCC's order, and the current numbers of applications pending for more than 150 days for those same jurisdictions.

We emphasize that this request is separate and distinct from our Petition for Reconsideration filed on a portion of the Declaratory Ruling. We continue to urge the Commission to take timely action on our Petition, apart from this request.

Pursuant to Commission rules, a copy of this notice will be included in the record for the proceeding noted above.

Sincerely,

Ken Fellman
President
NATOA

Cc: Jeffrey Steinberg, Deputy Chief, Wireless Telecommunications Bureau
Jane Jackson, Associate Bureau Chief, Wireless Telecommunications Bureau

January 3, 2011

Ruth Milkman
Bureau Chief
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Wireless Facilities Siting Order*, WT Docket No. 08-165

Dear Bureau Chief Milkman:

On May 25, 2010, the National Association of Telecommunications Officers and Advisors ("NATOA") submitted a letter requesting that the Commission initiate a proceeding that would analyze the impact of the November 18, 2009 Declaratory Ruling[1] adopted in the above-referenced proceeding. We believe that collecting the data and examining its impact may help the Commission as it considers actions in other related proceedings and as it takes steps to implement the National Broadband Plan.

Following the submission of our request, and at your suggestion, NATOA representatives met with Steve Largent and others of CTIA in an effort to determine if the two associations might agree upon a list of questions that could be asked in this type of follow up examination. During that meeting we discussed other options for addressing these issues cooperatively – and outside the purview of the Commission – to obtain the data needed to assess 1) exactly how many suits have been filed and the circumstances behind those suits, and, more importantly, 2) the pending applications that did not result in the filing of a suit. Unfortunately, our attempt to work with industry to obtain this information was unsuccessful.

Now, with the passing of the one-year anniversary of the wireless facilities tower siting order, we renew our call for a formal Commission proceeding that would ask parties that filed comments in favor of a "shot clock" for wireless facilities siting decisions to advise the Commission as to the specifics of 1) the applications that were pending at the time of the order; 2) any suits they have filed under the Declaratory Ruling; and 3) the specifics of any situations where suit was not filed, but the party believes the Declaratory Ruling was central to getting a

[1] *In the Matter of 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*, FCC 09-99, WT Docket No. 08-165.

local zoning authority to move forward with an application.[2] NATOA firmly believes that the institution of such a proceeding will further the Commission's determination to make "data driven" decisions and its dedication to continually analyze actions taken to ensure that these actions have their intended effect.

On behalf of NATOA, I urge the Commission to take this action now.

Sincerely,

Ken Fellman
President
NATOA

[2] We ask the Commission to require that parties include the specific details regarding the application at issue, including clearly identifying the local zoning authority by name. Parties should also be required to provide notice to each named zoning authority so that they are given an adequate opportunity to respond. Responses in this proceeding that do not identify the local zoning authority discussed and that do not provide notice to that entity should not be considered by the Bureau.

Exhibit D

May 25, 2011

Via email

The Honorable Julius Genachowski
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Notice of Inquiry - Acceleration of Broadband Deployment
WC Docket No. 11-59

Dear Chairman Genachowski:

On behalf of the nation's local elected officials and advisors, we write to express our concerns regarding a statement contained in the above-referenced Notice of Inquiry ("NOI") that suggests the Federal Communications Commission may act on recommendations of the Technological Advisory Council ("TAC") "independent of this proceeding."

The TAC recommendations, proposed by a group of industry and technology professionals, address many of the issues raised in the NOI. We believe it would be premature for the Commission to act on any of these recommendations until local governments have had an opportunity to comment on the NOI and comment through the reauthorized Intergovernmental Advisory Committee ("IAC"). It is our hope that the IAC will provide the Commission with the local government perspective on rights of way management and broadband deployment.

Collectively, we represent the interests of almost every municipality and county government in the United States. It is imperative that the Commission, which strives to be a data driven agency, not act on these recommendations independent of the NOI and the reauthorized IAC. We look forward to working with the Commission as it continues its goal to expand broadband deployment and adoption.

Sincerely,

Tom Cochran
CEO and Executive Director
The U.S. Conference of Mayors

Donald Borut
Executive Director
National League of Cities

Larry Naake
Executive Director
National Association of Counties

Steve Traylor
Executive Director
National Association of
Telecommunications Officers and Advisors

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Acceleration of Broadband Deployment	)	WC Docket No. 11-59
Expanding the Reach and Reducing the Cost of	)	
Broadband Deployment by Improving Policies	)	
Regarding Public Rights of Way and Wireless	)	
Facilities Siting	)	

DECLARATION OF GARTH T. ASHPAUGH

I, Garth T. Ashpaugh, declare as follows:

1. My name is Garth T. Ashpaugh. My business address is P.O. Box 879, Winter Park, FL 32790. I am the President and a Member of Ashpaugh & Sculco, CPAs, PLC ("A&S"), an accounting firm that my partner and I started in 1999. A&S provides consulting services to business and government organizations in such areas as financial analysis, cost of service studies and regulatory accounting. My full qualifications are described at the end of this declaration.

2. I was employed by the Missouri Public Service Commission ("MPSC") from August 1978 through January 1991. During my tenure with the MPSC, I testified on a variety of financial, accounting and regulatory issues. I formulated many policies and procedures adopted by the MPSC, including phase-in ratemaking plans for three nuclear plants and filings of the MPSC with the Financial Accounting Standards Board. I further participated in two audits of BellCore conducted under the auspices of the National Association of Regulatory Utility Commissions.

3. Since leaving the MPSC, I have assisted a variety of local governments on communications-related issues that have required me to review both the costs associated with managing the rights of way, and the costs incurred and the revenues earned by utilities in

connection with their use of the right-of-way. These include studies in Montgomery County, MD, Newark, NJ, Greensboro, NC, Memphis, TN and Metro Nashville-Davidson County, TN. Most recently, I provided expert testimony before the United States District Court for New Mexico on behalf of the City of Santa Fe in its litigation with Qwest concerning charges for use of rights of way.

4. One question the FCC asks in the NOI is whether localities should be limited to recovering costs through right-of-way fees. As stated above, I have undertaken cost studies to determine the local government's costs to manage and maintain their public rights-of-way ("PROW"). In most instances, these studies were to comply with state laws that limit fees for use of PROW to the recovery of costs. I believe that a cost-based system is not likely to benefit communications providers, and could harm the development of competition and discourage new deployment.

5. Our rate studies utilized traditional ratemaking concepts and principles to identify and properly allocate costs to the PROW and to particular users. Traditionally, permitting fees have not captured all the costs even of the Permitting department/division, much less all the other administrative, operations and capital costs associated with rights-of-way. This may not matter in a community that can charge rents for use of the rights-of-way, but if compensation is required to be based on costs, it then becomes important to capture and allocate all costs associated with the activities.

6. If that is done, it is not at all clear providers would benefit – except insofar as the federal rule is used to evade payment obligations. Many states dictate non-cost-based fees for use of the rights-of-way, and if those were eliminated, cities and counties would be immediately and significantly harmed. States such as Texas have a mandated state-wide structure where charges are based on per line amounts. Going to a federally mandated model could put all such revenues for

Texas cities at risk until and unless the law changed. This budget impact could be significant, and would add to pressures to local budgets, possibly affecting libraries and other public institutions that encourage broadband adoption.

7. As importantly, if a cost-based system were implemented nationally, it would be costly, and result either in substantial and immediate cost increases to providers or to communities (creating significant budget strains).

8. As the Commission's own experience with cost-based regulation surely indicated, cost studies are expensive, labor intensive and require extensive review of documentation. A right-of-way cost study is no exception. Localities keep books and records in accordance with generally accepted accounting principles for state and local governments as established by the Governmental Accounting Standards Board (GASB).[1] Among other things, cost accounts in localities are typically tied to departments and funding mechanisms, and not to particular users of services, or cross-department functions.

9. Based on my experience, detailed studies, along with the development of rates for PROW usage, normally exceed $100,000. Considering that there were reportedly 39,044 local governments in the U.S. as of 2007,[2] if one assumes that only 10,000 of them were forced to perform a cost study as a result of the FCC adoption of a cost-basis requirement, this would translate to an *additional added federal regulatory burden* of about $1 billion. It is also fair to assume that the studies would be updated periodically, as cost and appropriate cost allocation change over time, as local budgets change and use of the rights of way changes. If one assumed that rates were set from cost studies and updated only once in a five year period, it could translate to

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[1] The Governmental Accounting Standards Board or GASB is an independent, private-sector, not-for-profit organization that—through an open and thorough due process—establishes and improves standards of financial accounting and reporting for U.S. state and local governments. Governments and the accounting industry recognize the GASB as the official source of generally accepted accounting principles (GAAP) for state and local governments. (GASB at a Glance http://www.gasb.org)

[2] http://www.nlc.org/build-skills-networks/resources/cities-101/local-u-s--governments

another $1 billion of additional regulatory costs. It is also fair to assume that the FCC would be required to revisit it rules and interpret them from time to time. The FCC currently recovers about $2 million annually from cable subscribers, a fee originally imposed to cover costs of rate regulation. Cable regulation has never been cost-based, except in rare cases, so it is fair to assume that the fees the FCC would be required to charge to recover its own costs would substantially increase. Finally, any cost study is subject to challenge, as the Commission's own experience with rate regulation indicates. Again starting from the number of communities in the U.S., and assuming that 10% of the studies performed are challenged, and each challenge consumed $500,000 in resources (the legal costs to the communities and the legal costs to the carriers) – a fairly modest estimate – one could be looking at regulatory costs of $500 million. Over a five-year period, in other words, it is possible to imagine that the cost of FCC regulation could exceed $2-2.5 billion. Considering the ARRA devoted to infrastructure development was estimated to add 16,419 job-months for every billion of investment in public transportation infrastructure, this is a significant reduction in that effort. The FCC could, in a single dictate, remove that number of job months or more from the economy to pay for the cost of a federal regulatory regime. Obviously, one can come up with different total costs based on different assumptions. But there can be little doubt that this could be an extraordinarily expensive federal experiment.

10. Dictating a national, cost-based methodology may have other negative effects as well. A cost per unit of occupancy fee requires payment upon occupancy even though revenues may not be generated for some time in the future. A percentage of revenues fee structure, which most cable incumbents were allowed to build their systems under, allows a phase-in approach to competition. When a competitor enters the PROW, it does not incur fees (other than limited permitting fees) until it has revenues. This assists the competitor, for example in managing its cash flow and reducing risk in the event anticipated revenues do not materialize as quickly as anticipated, while a cost-based fee may impose costs without regard to system revenues.

11. In several instances, fees are charged on per line basis, a per foot basis or some other basis, without the locality or state having performed a detailed cost study. The fees are often established through negotiation or in conjunction with the industry. These fees provide certainty and predictability in budgeting for the local government and the provider that a cost-based federal mandate does not.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief, and that this declaration was executed on July 18, 2011, at Winter Park, Florida.

Dated: July 18, 2011

Garth T. Ashpaugh

GARTH T. ASHPAUGH, CPA

Education	BS, Business Administration, University of Missouri, 1977
Professional Registration	Certified Public Accountant, State of Florida #0023193 Certified Public Accountant, State of Missouri #007098
Professional Affiliations	Florida Institute of Certified Public Accountants American Institute of Certified Public Accountants Florida Government Finance Officers Association National Association of Telecommunications Officers and Advisors

Qualifications and Experience Summary

Mr. Ashpaugh has been engaged in utility matters and regulation full-time for over twenty years. His previous experience includes consulting since 1991 and working as Audit Supervisor with the Missouri Public Service Commission. He holds licenses as a Certified Public Accountant in the states of Missouri and Florida.

Relevant Expertise

Litigation Support And Expert Testimony

- Cost of Service Mergers and Acquisitions
- Cost of Service Issues and Analysis
- Construction Audits

Mr. Ashpaugh has an extensive background in providing litigation support and expert testimony. In addition to his presentations to local authorities in cable rate matters, he has assisted clients in evaluating proposed mergers including Kansas City Power and Light and UtiliCorp, Baltimore Gas and Electric Company, and Potomac Electric Power Company. He also filed testimony addressing the issues developed in the BGE/PEPCO merger. He has reviewed the filings, developed cost analyses, and workout proposals regarding bankruptcies of electric utilities He has analyzed accounting and rate issues regarding most current issues before the Federal Energy Regulatory Commission (FERC), including the 1990 Amendments to the Clean Air Act and pronouncements of the Financial Accounting Standards Board (FASB). He has provided expert testimony in twenty-nine Missouri rate cases regarding cost of service, mergers and acquisitions, and construction audits; these included telephone, electric, gas, and water utility companies.

Retail And Wholesale Rates

- Cost of Service Studies
- Electric Rate Audits
- Nuclear Power Plant Audits

Mr. Ashpaugh has worked extensively in the area of rates. He has analyzed wholesale electric rate filings, assisted in the negotiation of electric rates and charges under contract rates, and testified on electric cost of service. He performed and supervised cost of service studies in over thirty cases before the Missouri Commission. While at the Commission, he served as the lead auditor for electric rate case audits, and project coordinator for the construction audit of a nuclear plant. This required the supervision and coordination of the efforts of fifteen auditors with the Commission's

engineering, legal, and rate design departments. Mr. Ashpaugh also developed the phase-in model methodology utilized by the Missouri Commission in ordering phase-ins of Union Electric's Callaway Nuclear Plant, Kansas City Power and Light's portion of the Wolf Creek Nuclear Plant, and Arkansas Power and Light Company's allocation of costs associated with the Middle South's Grand Gulf Nuclear Plant.

Mr. Ashpaugh also headed a national audit of a large telephone research company that involved engineers, accountants, and economists of ten State Commissions and the Federal Communications Commission. This audit took an in-depth look at research and development in telecommunications, including Integrated Services Digital Networks (ISDN) and fiber optics. The report, issued in December 1991, discussed regulatory concerns and treatment of these expenditures.

Since leaving the Commission, Mr. Ashpaugh has analyzed cost of service for contractual purchases of electricity by municipal power agencies from investor-owned utilities. He has analyzed maintenance expense of an electric generating cooperative and testified before the Alaska Public Utilities Commission regarding the appropriate annual level of this expense in cost-of-service. He has determined wholesale and retail cost of service rates for a New England electric cooperative emerging from bankruptcy. He has also analyzed the wholesale rate filing of a major Florida investor-owned electric utility for the filing of an intervention and protest by some of our municipal clients.

Cable Rate Regulation And Franchise Negotiation

Mr. Ashpaugh has performed cable rate reviews and assisted in cable franchise renewals and transfers for franchisers in Arizona, California, Florida, Maryland, Michigan, New Mexico, New York, Pennsylvania, Texas, Virginia, Wisconsin and Wyoming. He has reviewed and recalculated franchise fees paid to the local authorities and performed detailed financial analyses related to franchise renewals and transfers. He has analyzed the rate filings of cable operators, provided detailed reports of the analyses to the franchising authorities, and recommended new cable rates to the franchising authorities that either have been implemented or are under consideration. He has assisted in the filing of comments with the Federal Communications Commission ("FCC") regarding rate regulation of cable. He has made presentations in Florida, Georgia, Hawaii, Massachusetts, New Mexico, Oklahoma, Oregon, and South Carolina on cable matters. He is a member of the National Association of Telecommunications Officers and Advisors ("NATOA").

Telecommunications

Mr. Ashpaugh has assisted local governments for many years regarding: ordinances addressing users of rights-of-way; telecommunications planning and design for their internal uses and for the local government; strategic planning regarding telecommunications, the community, economic development, and quality of life issues; contract negotiation and franchise renewals; and regulatory matters. He has made presentations regarding telecommunications for the American Public Power Association, Northwest Public Power Association, Massachusetts Municipal Wholesale Electric Corporation, Municipal Electric Authority of Georgia and Florida Municipal Power Agency. He organized and chaired a conference and seminar on telecommunications for the Orlando Utilities Commission. He has participated in performing initial feasibility studies, helped local authorities in evaluating requests by cable operators for rate increases or changes in service offerings, and provided expert testimony before city councils and other regulatory bodies.

Record of Testimony
Garth T. Ashpaugh

Proceeding	Petitioner/Matter	Pre-filed Direct	Direct	Rebuttal	Surrebuttal	Subject of Testimony
Missouri Public Service Commission						
ER-79-48	Arkansas-Missouri Power Company	X				Plant, plant related expenses, uncollectibles, and administrative and general expense
18,318	Fidelity Telephone Company	X				Plant, non-wage expenses
TR-79-213	Southwestern Bell Telephone Company	X				Payroll and associated expenses
ER-80-17	Union Electric Company	X				Revenues and revenue related expenses
SR-80-189	Lake St. Louis Sewer Company	X	X	X	X	Plant, plant related expenses, other rate base, and revenues
GR-80-210	Laclede Gas Company	X				Non-wage expenses
GR-80-213	Missouri Edison Company	X				Research and development expenses
GR-80-224	Missouri Power and Light Company	X	X		X	Research and development expenses
TR-80-256	Southwestern Bell Telephone Company	X				Payroll and associated expenses
GR-81-51	O'Fallon Gas Company	X				Non-wage expenses, depreciation, income taxes
ER-81-79	Citizens Electric Company	X				Non-wage expenses
ER-81-180	Union Electric Company	X				Revenues, non-wage expenses, and income taxes
WR-81-280 SR-81-281 SR-82-51	Missouri Cities Water Company	X				Plant, plant related expenses, revenues, revenue related expenses (e.g. chemicals, electric, purchased water), and prepayments
GR-81-353	Great River Gas Company	X				Non-wage expenses
ER-82-66	Kansas City Power and Light Company	X	X	X	X	Revenues and revenue related expenses
HR-82-67	Kansas City Power and Light Company	X				Revenues and revenue related expenses
TR-82-199	Southwestern Bell Telephone Company	X	X	X	X	Affiliated interests (License Contract)
WR-83-14 SR-83-15	Missouri Cities Water Company	X	X	X	X	Revenues, revenue related expenses, prepayments and maintenance expense
ER-83-49	Kansas City Power and Light Company	X	X	X	X	Revenues and revenue related expenses
TR-83-253	Southwestern Bell Telephone Company	X	X	X	X	Affiliated interests (License Contract)
ER-84-168 ER-85-160 EO-85-17	Union Electric Company (Callaway)	X	X	X	X	Phase-in

Record of Testimony of Garth T. Ashpaugh

Proceeding	Petitioner/Matter	Pre-filed Direct	Direct	Rebuttal	Surrebuttal	Subject of Testimony
EO-85-185 ER-85-228	Kansas City Power and Light Company	X	X	X	X	Revenues, revenue related expenses, and phase-in
ER-85-265	Arkansas Power and Light Company	X	X	X	X	Affiliated interests and phase-in
WR-87-2	St. Louis County Water Company	X				Contributions in aid of construction
EC-87-114	Union Electric Company	X	X		X	Revenues, revenue related expenses, phase-in
WR-88-5	St. Louis County Water Company	X	X	X	X	Affiliated interest expenses, Management bonuses, Contributions in aid of construction
TC-89-14	Southwestern Bell Telephone Company	X	X		X	Interest during construction (IDC), plant, depreciation, and capital deployment
TR-89-106	Contel of Missouri, Inc., Webster County Telephone Company, and Contel Systems of Missouri	X				Depreciation, and capital deployment
WR-89-246	St. Louis County Water Company	X	X	X	X	Affiliated interest expenses/Parent company costs, Management bonuses
WR-97-237 SR-97-238	Missouri American Water Company	X	X	X	X	On behalf of the City of Warrensburg regarding rate design and differentials between non-connected systems.
Alaska Public Service Commission						
U-93-1	Chugach Electric Association, Inc.	X	X	X		On behalf of Homer Electric Association, Inc. and Matanuska Electric Association, Inc. regarding the proper rate treatment of major overhaul and repair costs to generating units
Kansas Corporation Commission						
Docket Nos. 193,307-U; 193,306-U	Western Resources, Inc. Kansas Gas & Electric Company	X				On behalf of the City of Wichita, Kansas regarding rate differentials between companies.
District of Columbia Public Service Commission						
Case No. 951	Baltimore Gas and Electric Company, Potomac Electric Power Company, and Constellation Energy Corporation	X				On behalf of Washington Metropolitan Area Transit Authority regarding the impact of the proposed merger on retail rates of PEPCO.
Maryland Public Service Commission						
8659	SBC Media Ventures, Inc.	X		X		On behalf of Montgomery County, Maryland regarding the possible subsidization of the costs of providing telephone service by cable subscribers.

Record of Testimony of Garth T. Ashpaugh

Proceeding	Petitioner/Matter	Pre-filed Direct	Direct	Rebuttal	Surrebuttal	Subject of Testimony
8725	Baltimore Gas and Electric Company, Potomac Electric Power Company	X				On behalf of Washington Metropolitan Area Transit Authority regarding the impact of the proposed merger on retail rates of PEPCO.
Third Judicial District Court, County of Santa Ana, State of New Mexico						
No. CV-95-962	El Paso Electric Company, Plaintiff vs. City of Las Cruces, Defendant				X	Filed an affidavit on behalf of the City of Las Cruces regarding the accounting treatment of debt issue cost.
Circuit Court of St. Charles County , State of Missouri						
No. CV196-7425CC	Mullenix - St. Charles Properties, L. P. v. City of St. Charles		X			Filed testimony on behalf of Mullenix regarding the cost of service and rate design of the City's water and sewer utility.
New Mexico Public Utility Commission						
Case No. 2761	Public Service of New Mexico	X				Filed direct testimony on behalf of the City of Albuquerque addressing cost of service and rate design issues regarding the PSNM's electric rate filing.
Case No. 2762	Public Service of New Mexico	X		X		Filed direct and rebuttal testimony on behalf of the City of Albuquerque addressing cost of service and rate design issues regarding the PSNM's gas rate filing.
Circuit Court Division Three (3) of Jefferson County, State of Kentucky						
No. 99-CI-01714 & No. 99-CI-01771 (Consolidated)	James F. Dooley, Larry Rosen, Charles Pearl, Linda Pearl, Dale Beadle, Ray Fogerty, and Catherine Fogerty (on behalf of Themselves and All Others Similarly Situated) v. Intermedia Partners of Kentucky, L.P. n/k/a Insight Kentucky Partners II, L.P., TCI/TKR of Jefferson County, Inc., d/b/a TKR Cable of Greater Louisville, Inc., f/k/a Storer Communications of Jefferson County, Inc.		X	X		Provided expert analysis on behalf of the Plaintiffs addressing treatment of cost of pass-throughs of property tax in cable bills. Provided analysis and advice to the legal team and provided testimony in the form of a deposition. Matter settled with payments made to Plaintiffs.
Time Warner v. City of Lincoln, Nebraska						
8:04 CV 00219	United States District Court for the District of Nebraska		X			Provide the City our report on franchise fee underpayments. Providing testimony as an expert witness for the City. Deposed by TWEAN 12/04.

Record of Testimony of Garth T. Ashpaugh

Proceeding	Petitioner/Matter	Pre-filed Direct	Direct	Rebuttal	Surrebuttal	Subject of Testimony
United States District Court Middle District of Florida Fort Myers Division						
Case No. 2:04-cv-26-FtM-29DNF	Marco Island Cable, a Florida Corporation, Plaintiff vs. Comcast Cablevision of the South, Inc.		X	X		(1) Explain and support that the business practices of the Defendant prevented the Plaintiff from serving customers on Marco Island and from growing beyond Marco Island; (2) provide an understanding to the Court on the rules and regulations concerning cable home and cable home-run wiring promulgated by the FCC, other statutes and regulations related to these rules and regulations, the obligations under franchises to provide service; (3) provide expert opinion on the treatment of inside wiring in cable television franchise matters and in utility rate regulation in general; and (4) provide expert opinion on cable television franchising.
Court of Common Pleas Montgomery County, Pennsylvania Civil Division						
October Term 1997 No. 97-19055	Philip Baldassari, on behalf of himself and all others similarly situated, Plaintiff, v. Suburban Cable TV Co., Inc. Defendant	X				Filed an expert report on behalf of the Plaintiff to identify costs associated with a subscriber not paying his bill within the prescribed time, thereby generating a late fee charge, explain the appropriate amount of late fee and provide a calculation of overcharges.
New Mexico Public Regulatory Commission						
Case No. 08-00092-UT	Public Service of New Mexico	X				Filed direct testimony on behalf of the Albuquerque Bernalillo County Water Utility Authority addressing the need for expedited handling of PSNM's fuel adjustment clause request.
New Mexico Public Regulatory Commission						
Case No. 07-00330- UT	New Mexico-American Water Company, Inc.	X				Filed direct testimony on behalf of OS Farms addressing the sale and treatment of non-utility property.
United States District Court for the District of New Mexico						
Civil Action No. 10-CV-00617-RB-RLP	Qwest Corporation v. City of Santa Fe, New Mexico	X	X			Filed direct testimony and testified on behalf of the City of Santa Fe regarding right-of-way use by Qwest.
Chancery Court for Davidson County, Tennessee Part IV						
Davidson County Chancery No. 02-679-I (IV) & No. 02-749-III (IV) Consolidated	The Metropolitan Government of Nashville and Davidson County, Tennessee v. XO Tennessee, Inc. & TCG Midsouth, Inc.					Performed a cost study to determine Metro's costs to manage its rights-of-way. Providing expert testimony concerning the cost study. Will be deposed in June 2011 and the trial will be in 2012.

Record of Testimony of Garth T. Ashpaugh

Proceeding	Petitioner/Matter	Pre-filed Direct	Direct	Rebuttal	Surrebuttal	Subject of Testimony
In the United States District Court for the District of Nebraska						
4:10CV3030	City of Lincoln, Nebraska, v. Windstream Nebraska. Inc.	X				Filed an expert report on behalf of the City to identify discrepancies in payments of telecommunication occupation s taxes paid by Windstream to the City for the period of 2002-2010. Deposed in this matter on June 13, 2011.

Exhibit F

An Engineering Analysis of Public Rights-of-Way Processes in the Context of Wireline Network Design and Construction

July 13, 2011

Prepared by Columbia Telecommunications Corporation

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1 Introduction: Public rights-of-way processes represent a minor matter relative to the full effort required for broadband deployment

This report describes, from an engineering standpoint, the permitting process in the context of wireline broadband outside plant design and construction process. The observations in this report are based on Columbia Telecommunications Corporation (CTC) staff-members' decades of expert work building out and overseeing build-out of communications infrastructure across the United States.[1]

The report concludes that accommodating permitting and other local government requirements in public rights-of-way is a relatively small part of the cost and time required for design and construction of outside plant for a communications network. The National Broadband Plan asserts that "[t]he cost of deploying a broadband network depends significantly on the costs that service providers incur to access conduits, ducts, poles and rights-of-way on public and private lands. Collectively, the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20 percent of the cost of fiber optic deployment…" This statement – assuming it is accurate - conflates permitting and very different activities associated with obtaining access to utility poles and conduit. Fees charged by local governments in connection with the *deployment* of broadband are a very small portion of the cost of fiber deployment, and certainly nothing close to 20 percent of deployment costs.

As discussed in this paper, the outside plant design and construction process, broadly speaking, involves the work from the time a network engineer receives instructions to construct a particular type of line in a particular community through the time the line is actually built. This is, of course, only a part of the work involved in the overall design of a network. Generally speaking, outside plant design and construction occurs at a point when overall network design and marketing principles are already in place. The decision as to *what* and *whether* to build involves additional time and cost. And of course, with broadband systems, the physical plant "design and construction" are only part of effort required to provide services. The design, installation, and integration of electronics and software add significantly to cost, and affect whether, when and where a company will build a system, and how it will stage construction. In our experience, it is other factors, rather than details within the outside plant and construction process, that drive deployment, and the time required for deployment.

[1] CTC provides technology engineering and business planning consulting services for public sector and non-profit clients nationwide and abroad. Since 1983, CTC has assisted hundreds of public and non-profit entities to analyze technology needs and strategies, plan and design broadband systems, and work with the private sector to meet local broadband and technology needs. This report was prepared by CTC's Director of Engineering, Andrew Afflerbach, Ph.D., P.E., who has 15 years of experience designing and evaluating fiber network design, with the support of CTC's outside plant engineers, who, among them, hold more than 100 years of experience designing and building outside plant for both telephone and cable companies.

In our experience with the communications industry and engineering broadband networks, public rights-of-way acquisition costs represent – in those communities that assess them – a remarkably minor factor in the larger analysis of outside plant design and construction processes and expenses—a cost of a few percent of construction (and thus an even smaller percentage of the total cost associated with planning and implementing a communications network).

Labor and material capital costs for outside plant and construction range from $25,000 to $250,000 per mile, depending on the service area and the type of construction used. In our experience, build-out costs are primarily a function of local labor rates, materials pricing as of the date of construction/integration, the complexity of the terrain, real estate acquisition, whether the construction will be aerial or underground, and the make ready process. By comparison, local permitting fees are a small amount of these costs. Operational costs (depending on the nature of the services provided by the broadband facility) are dominated by programming, Internet backhaul, outside plant maintenance, customer service, and billing.

Nor does the permitting process significantly delay deployment. While every project is different, for aerial construction, it is almost always the case that the majority of time in outside plant design and construction is in fact the make-ready process--coordinating with the pole owner and existing utilities to prepare utility poles for attachment, as described in Section 2.

Where local government rights-of-way permitting time is a significant part of the overall outside plant design and construction process in a typical mixed aerial/underground construction project, it will typically be where special reports, inspections, or approvals are required before a permit may issue—and most of these additional reports, inspections, or approvals are based on state and federal requirements. Special permits or other authorizations are required for crossing railroads, waterways or environmentally sensitive areas, or where federal funding mandates environmental assessments, for example. The time required to obtain the necessary approvals from federal environmental officials that are conditions to the issuance of a permit can double or triple total construction time for a particular project. However, it is very difficult to eliminate the requirement for additional time without harming property, creating significant risks to public safety, to the environment, or to other utilities and critical transportation systems.

To some degree, the impact on construction projects can be mitigated by proper planning, routing, and staging by the owner of the communications network. For example, in our experience, if the network deployers (or their contractors) make an effort to stage the filing of permit applications rather than filing hundreds at one time, the processing burden on the locality is spread over a reasonable period of time. In our experience, localities are very willing

to work with deployers to establish timetables and processes for reasonable submission – and reasonable review – of permit applications.

In many localities, local permitting processes and fees do not exist. Either as a matter of local or state policy, many localities—particularly those in rural areas—impose little or no process or fee on use of the public rights-of-way. In addition, in some areas, localities are not engaged in rights-of-way permitting. [2]

In our experience, it is in the most unserved and underserved rural areas where local fees are most minimal or non-existent; for example, traffic control in these areas requires less coordination. Thus, the absence of a process or fees does not, in our experience, encourage the deployment of services—providing further support for our conclusion that the consideration is simply not a relevant factor.

However, we have found that a well-managed process of local oversight of network construction often adds value and plays an essential, enabling role in key processes related to construction of broadband networks, including:

1. Reducing hits and cuts to other utilities located in the rights-of-way—for example, in Anne Arundel County and Howard County Maryland, the local governments intervened to improve quality control and remove contractors when Verizon Communications' construction of FiOS caused massive rights-of-way disruption and damage to existing cable and telecommunications utilities and made the project owners accountable for improving their practices and paying for their damages.

2. Enforcing codes which in turn make the finished construction safer and reduce its aesthetic impact—for example, many local governments monitor electrical and safety code in the rights-of-way and require entities in the rights-of-way to fix safety violations such as improper clearances, relocate enclosures in dangerous locations, and repairing damaged infrastructure.

3. Reducing disruption to roadways and economic activity through coordination of joint builds and enforcement of restoration requirements—for example, notifying service providers and coordinating the "open trench" installation of communications conduit in rights-of-way when road or utility construction is taking place.

4. Providing Geographic Information System (GIS) mapping. One of the significant contributions of many local jurisdictions is the availability of GIS base maps. If these are

[2] For example, in many parts of Virginia, rights-of-way including neighborhood streets are managed by the Virginia Department of Transportation; permitting is all done by the state. However, this is simply a consolidation of major and minor rights-of-way under one roof; a full permitting process still exists.

not available from the jurisdictions they must be purchased commercially or generated by the communications provider itself.

2 Understanding broadband network design processes and costs

Outside plant design and construction includes a number of elements. To illustrate the point, consider a five-mile extension of an existing network. For outside construction to proceed, there should be a project plan that encompasses:

- Field surveys
- Route design
- Make-ready
- Construction drawings
- Permitting and licensing (state and local, as well as special permits for river or rail crossing or environmentally sensitive areas)
- Plans for necessarily equipment, materials and labor, and for integrating the extension with the existing network.

To determine the appropriate routing for a project, engineers obtain GIS information from the relevant jurisdictions, if available and study the maps, including details of roadways, railroads, major highways, street centerlines, "hydro lines" (i.e., creeks, streams, rivers), and "hydro areas" (i.e., wetlands, bodies of water). GIS maps must also be developed, overlaying these features with proposed fiber routes, future fiber routes, future locations, and current locations.

The engineers then conduct a full walk-out of the route and complete site surveys of all proposed customer fiber locations. This is needed to complete the design and preliminarily assess permit needs and initiate the permitting process.

A significant portion of the time expended on a fiber design project must be dedicated to the measuring and drawing of aerial and underground routes and facilities (i.e., the creation of field notes) and the conversion of those field notes to a widely-used format such as AutoCAD or MicroStation.

During the route survey, the engineers must note existing pole lines and potential construction barriers, including obstructions, permitting concerns, and possible improvements. For aerial portions of the route, for example, this would include measurement of span distances and the aerial clearances of electric facilities, and recording details including:

- Pole numbers
- Electrical facilities
- Clearance over roads and bridges
- Span distances
- Guys and anchors

For underground portions of the route, engineers must measure the green space available within the rights-of-way for placement of conduit, and record details including:

- Storm drains
- Edge of pavement
- Water and sewer lines
- Street lights
- Required test pits
- Slack storage
- Splice cases
- Pedestals
- Vaults
- Required hardware

Project drawings would include additional details such as:

- Running line of fiber
- Road names
- Railroads and crossings
- Bridges
- Fixed markers/significant landmarks (e.g., fire hydrants, valves, poles)
- Environmental protected areas (e.g. wetlands, bodies of water)
- Flood plains
- Easements
- Rights-of-way
- Any applicable public utilities or assets
- Any applicable private utilities or assets
- Termination points
- Fiber entry and installation, as applicable

Engineers would then complete a base map, a strand map (for aerial portions, based on make-ready or "stick" drawings), and a design drawing with construction detail.

First, however, pole attachment licenses are needed for aerial routes from the pole owners. Make-ready work, the tasks associated with preparing utility poles for attachment, constitutes the single largest portion of the design effort. The pole attachment must be coordinated with all utilities and communications infrastructure owners that are attached to the existing poles. To secure these licenses, engineers will submit the appropriate pole attachment permits to the pole owners, typically commercial power and/or telecommunications companies. Engineers will determine who owns the pole, whether there is joint ownership, and what work the utility or communications company needs to complete to attach fiber to the poles. A single pole application can include from one to 200 poles. Engineers from all utility companies on the poles conduct a joint walkout and identify how to relocate utilities to accommodate the applicant.

The applicant company typically pays for the relocation. In addition to the cost, there is often considerable delay in this process, both in scheduling the walkout and in performing the relocation.

"Engineering work documents" (EWDs) are produced in the final stage of the design process. These documents include a bill of materials, proof of permit issuance, and all required engineered drawings and design specifications. Such EWDs are typically overseen by a licensed Professional Engineer. If the construction vendor were to subsequently create a redline (i.e., deviation from the original design and the "as built" design), the EWDs would have to be updated to reflect those changes. In the event obstructions are discovered during project implementation, additional changes must be made and drawn in CAD or MicroStation.

Rights-of-way and encroachment permits (issued by the county/city and/or the state authorities) are standard and are required for every route. Once the make-ready and EWDs are complete, the route is finalized and the permitting package is submitted. Again, a typical five-mile segment will require one additional day for preparation of the permitting package (beyond the work required for preparation of the EWDs). If the issuing entity identifies any concerns or mistakes in its initial review of a permit application, the reviewer will typically return the plans, send an e-mail about the issue, or call the engineer or project coordinator of the constructing applicant entity to discuss the concern. If an application or portion of an application is returned, the applicant entity must review any potential changes and then make corrections and send a revised application (if necessary), or simply e-mail or call the permit reviewer to provide the requested information.

In our experience, the total outside plant design and construction process for a five-mile segment, if properly staged and planned, can be completed in approximately 100 days.[3] This includes 65 days for make-ready activities with the pole owners and other utilities.

[3] Since design and construction of the various portions will take place in parallel, a large-scale project need not require many multiples of 100 days; this is simply the amount of time it takes a particular portion to go from beginning to end.

3 Understanding broadband network construction processes and costs

Outside plant design and construction is an expensive and multi-faceted process, of which obtaining rights-of-way permits is one relatively modest component. While actual costs may vary by project and geography, it is possible to make rough estimates for a "typical" project. A brief summary of these varied costs and some of the variables that determine their magnitude follows:

Labor

Labor represents the largest share of construction costs—approximately 50 to 80 percent. Materials costs (like the quantity of fiber strands and cables) are a secondary consideration.

All other expenses are dwarfed by labor costs. It is widely recognized that "[l]abor is the biggest expenditure in a FTTH network build-out"[4] or any wireline network build-out.

Of course, labor costs are highly variable. These costs tend to be highest in urban/suburban and affluent areas. Significantly, labor costs (and, therefore, broadband construction costs) are almost universally far lower in rural areas where broadband deployment is least robust.

Labor costs are frequently the single largest line item in a broadband construction project, and the scale of the costs – though always high – will vary geographically depending on local wage structures and union requirements, if any.

For instance, contract labor costs for a recent fiber deployment in rural Tennessee were priced at nearly $20,000 a mile. In our recent experience, in a major metropolitan area, the cost of labor would be far higher, closer to $100,000 per mile, depending on the type of construction (aerial/underground) and the amount of restoration required. This is due to the higher hourly cost of labor, the greater need for make-ready (in the case of aerial construction), the expertise needed for directional boring in heavily congested environments (in the case of underground construction), and the effort needed to restore paved and built-up areas.

Materials

The cost of materials at any one time can greatly influence deployment patterns as well as investment timing. Materials, both for outside plant and for network electronics, represent an enormous part of any build-out budget. With respect to outside plant, materials range from optical fiber to conduits to outside enclosures; on the electronics side, the materials will include the electronics to "light" and operate the fiber and provision services.

[4] Ashley Phillips, Nov. 2006, Broadband Properties, "Best Practices: Building a Fiber Network in a Rural Community," at 23 (http://www.broadbandproperties.com/2006issues/nov06issues/eatel_nov.pdf).

Material costs can dramatically impact investment decisions because they represent a constantly changing variable. Network electronics, like IT hardware, constantly decrease in price as the technologies are adopted and age—and simultaneously increase in capacity. They also require refreshment and replacement over time. Cable plant represents a somewhat more stable item with respect to price, though costs in this area also change over time and are subject to fluctuation; the recent earthquake in Japan, for example, took offline a number of fiber manufacturers, leading to a global shortage of fiber at a time of break-neck build-out in Asia (and BTOP/BIP-related build-out in the US), and thus driving up prices for the fiber still available.

Using the same rural Tennessee community described above, the outside plant material cost for a fiber-to-the-home deployment was priced at over $10,000 per mile. In metropolitan areas, the cost is similar.

Real estate acquisition

In some circumstances, construction must take place on private property. When this occurs, the broadband operator is forced either to purchase the property outright or obtain an easement from the property owner.

Mobilization of contractors

Considerable time and expense is required to initiate construction. Even with a completed design, the network builder must develop detailed specifications, find and maintain a pool of contractors, issue bid documents, review bids, select contractors, order materials, and oversee the contractors. The added expense of contractor management is usually borne by the entity managing the network build—and indirectly through costs reflected in the rates of the building contractor.

Aerial versus underground

A large-scale fiber network will typically include a mixture of aerial and underground construction, generally based on the prevailing type of utilities in the build area. While aerial construction may be cheaper, it is also more vulnerable to extreme weather, particularly in wooded areas and areas with frequent ice and high winds. These factors can increase long-term maintenance costs for aerial construction and may make underground construction a more attractive option in some areas.

Aerial construction is typically cheaper than underground. This is particularly true when existing utility poles are not crowded, and when the network builder has ownership of the utility poles (e.g., in the case of construction by power and utility companies). Actual costs vary dependent

upon equipment, the particular contractor, and design specifications. In the best case, aerial construction can be completed for $25,000 per mile including labor and materials. This cost will increase, however, when poles are crowded or when a third-party utility pole owner charges high rates for access. Under such scenarios, costs for aerial construction can reach $100,000 or more per mile (which might prompt consideration of alternative routes or underground construction).

As in all broadband projects, labor represents the largest component of aerial-construction expenses (up to 80 percent). Labor is needed to install the supporting strand, lash fiber optic cable to the strand, splice the fiber optic cable, place the distribution center, and activate testing of the plant. These costs may increase to reflect additional make-ready work, which must be performed to relocate existing aerial attachments (i.e., other fiber, telephone, and cable) or to extend or replace utility poles to ensure compliance with code requirements for minimum clearance. Incremental aerial construction material costs include the fiber cable, splice enclosures, fiber taps for individual subscriber drop connections, strand, and attachment hardware.

Underground construction costs likewise vary significantly depending upon the construction methodology and ground surface. While material costs for underground construction are comparable or only marginally more expensive than aerial construction, labor costs are significantly higher with this approach. In areas where restoration is not important and long continuous runs are possible (e.g., unimproved rural areas on the side of interstate roads), "plowing" the fiber into the ground is a relatively inexpensive option. This approach can cost as little as $70,000 per mile. In more developed areas, however, directional boring is likely necessary. This approach is less destructive to the rights-of-way and requires less restoration, but is substantially more expensive. In fact, costs for boring range from $90,000 to $400,000 per mile. Boring also limits the amount of cable and conduit that can be built.

Terrain and topography

The U.S. Government Accountability Office's (GAO) seminal paper on broadband deployment identifies a correlation between terrain and broadband deployment decisions. Constructing infrastructure is more expensive in mountainous and forested areas, owing to the difficulty in placing poles or underground utilities in rocky areas and the difficulty in accessing the areas. Broadband is relatively easier and thus more economical in flat, open terrain. Mountainous or rolling terrain and forests can also present a deployment obstacle for broadband technologies that require an unobstructed pathway to transmit radio signals from towers or antennas.[5] Geography and terrain "are almost certainly working through service provision cost," reporting

[5] US GAO-06-426 at 19.

that "an increase in vertical rise or ruggedness is associated with a decline in broadband deployment."[6]

Make ready

As discussed above, before aerial pole construction can begin, the existing utilities frequently must be moved on the poles, and poles may need to be modified. The utility make-ready may be performed by the existing utilities, by the pole owner, or by the jurisdiction's construction contractor, as decided by all parties as part of a walk-out survey. The make-ready work to be performed by the utilities includes raising, lowering, guying, and re-tensioning of existing aerial cables.

In the event that network construction is aerial, there is an absolute requirement to prepare the poles for new facilities, a multi-party process that may require extensive reengineering of pole facilities and pole replacement. In urban and suburban areas in particular, crowded poles turn make ready into a time-consuming and costly matter for an entity seeking to attach for the first time.

Ability to use existing infrastructure

Costs may be reduced where existing cable infrastructure and pathways are available. Some communications providers have excess fiber strands. Fiber count in cables ranges from 6 to 24 near residences and individual businesses, to more than 1,000 on backbone routes. The cost of a 6-count fiber cable is $2,000 per mile, while an 864-count cable is $50,000 per mile, implying a marginal cost of approximately $50 per fiber per mile. Actual costs for fiber purchase or lease are typically far higher, however, as prices reflect market costs and depend on fiber availability in the project corridor.

Utility pole attachments can be loaded with multiple fiber cables in a process called overlash. Overlashing enables a network provider to attach to utility poles without taking up more space. Overlashing requires the permission of the entity being attached and is limited to the loading capacity of the attachment. Where overlashing is available, make-ready costs can be eliminated and construction costs can be reduced to approximately $13,000 to $20,000 per mile.

[6] Kenneth Flamm, "Diagnosing the Disconnected: Where and Why Is Broadband Unavailable in the U.S.?" preliminary paper presented to the 2006 Telecommunications Policy Research Conference, August 2006, at 19 ("MODIS land cover types 3 and 6 seem to encourage broadband availability relative to a built-up urban land cover baseline. MODIS land cover type 15 seems to reduce broadband deployment"). Dr. Flamm found that hilliness might be "more advantageous than flat or smoothly rising or falling terrain."

Some entities (utilities, service providers, governments) have conduit available for purchase, lease, or trade. Pulling cables through available conduit costs $20,000 to $50,000 per mile, instead of $90,000 to $400,000 for new construction.

Redundancy and survivability

The specific requirements of the network (e.g., public safety grade, mission criticality, cost of outages) will determine the physical and electronic architecture of the network. For availability above 99 percent (i.e., fewer than eight hours of downtime per year), a building will generally need two redundant physical paths from the network to its location, along with an electronic infrastructure to accommodate failure of a fiber route or an electronic component, and backup power of sufficient duration. The network will also need to provide a 24-hour network operations center, a fiber repair crew, intrusion detection, and backup management and recovery facilities. Of course, there is a cost associated with these reliability features.

Ideally, physical redundancy needs will be reflected in the initial project design. In a network designed with redundancy in mind, each portion of the network is constructed as part of a ring, allowing for economical yet reliable construction. Conversely, construction costs are dramatically increased (typically doubling), when redundancy is prioritized after initial construction. In such cases, a custom cable pathway is often required.

State and Local Government Rights-of-Way Permitting

The costs and techniques used to perform and charge for rights-of-way permitting vary but the fees almost always make up a very small part of the project budget -- at most a few percentage points on the projects on which we've worked.[7] And, as discussed earlier, some authorities do not charge fees, waive fees under certain circumstances, or assess a bulk fee for a project.

[7] Fees may be higher or lower as a percentage of total costs depending in part on the nature of the work that is performed and its impact, and the manner in which particular local fee structures operate. To illustrate one example, one suburban Maryland community charges permitting fees to cover its costs for oversight and coordination of the rights-of-way. The fees are $0.50 per foot for underground directional boring construction, $2.00 for street crossings, and $0.20 per foot for aerial pole attachment, and $300 per application. The point here is that the fees are generally a small part of total outside plant and construction cost.

4 The National Broadband Plan overstates the expense of public rights-of-way access by conflating it with processes for accessing private property

The National Broadband Plan asserts that "[t]he cost of deploying a broadband network depends significantly on the costs that service providers incur to access conduits, ducts, poles and rights-of-way on public and private lands. Collectively, the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20% of the cost of fiber optic deployment."[8] This statement's imprecision creates misleading impressions by combining several different processes and expenses and providing the "collective" 20 percent figure. It is essential to differentiate local government rights-of-way processes and costs from the other efforts and costs that are incurred in securing access to facilities in the rights-of-way—and that are entirely unrelated to the cost of securing access to public property and entirely outside the control of local authorities.

In fact, as shown above, rights-of-way processes and fees associated with deployment – outside plant and construction - represent a relatively small component of this suite of expenses.

Indeed, the National Broadband Plan itself acknowledges the relatively large effort and costs associated with pole attachments and make ready. The Plan notes that rental rates for pole attachments are large and variable, ranging from $4.54 per month per household passed to $12.96 in rural areas. This expense is substantially larger in rural areas "where there often are more poles per mile than households."[9] The Plan likewise notes that make ready represents a sizable expense, highlighting comments by FiberNet, which reports that the make ready process for a project in West Virginia averaged $4,200 per mile and took 182 days to complete.[10] The Plan does not provide comparable data on rights-of-way processes and fees.[11]

By combining these expenses into a single measure, the Plan makes itself vulnerable to misunderstanding. For instance, a recent Politico article declares, "In its National Broadband

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[8] Connecting America: The National Broadband Plan, at 109 (available online at http://download.broadband.gov/plan/national-broadband-plan.pdf) Citing: Omnibus Broadband Initiative, The Broadband Availability Gap (forthcoming); *See* Letter from Thomas Jones, Counsel to FiberNet, to Marlene H. Dortch, Sec., FCC GN Docket No. 09-51, WC Docket No. 07-245 (Sept. 16, 2009) (FiberNet Sept. 16, 2009 *Ex Parte*) at 20 (noting average cost for access to physical infrastructure of $4,611-$6,487 per mile); *Comment Sought on Cost Estimates for Connecting Anchor Institutions to Fiber – NBP Public Notice #12, GN Docket Nos. 09-47, 09-51, 09-137, Public Notice, 24 FCC Rcd 12510 (2009) (NBP PN #12)* App. A (Gates Foundation estimate of $10,500-$21,120 per mile for fiber optic deployment); *see also* Letter from Charles B. Stockdale, Fibertech, to Marlene H. Dortch, Secretary, FCC, GN Docket. Nos. 09-47, 09-51, 09-136 (Oct. 28, 2009) at 1-2 (estimating costs ranging from $3,000-$42,000 per mile) (other citations omitted).

[9] Connecting America: The National Broadband Plan, at 110.

[10] Connecting America: The National Broadband Plan, at 111.

[11] *See* Connecting America: The National Broadband Plan, at 113 (asserting that broadband service providers claim that rights-of-way fees "increase the cost and slow the pace of broadband network deployment" and highlighting the variability of rights-of-way fees across jurisdictions, but providing no fee data).

Plan, the commission estimates that *pole attachments* amount to 20 percent of the total cost of deploying fiber-optic cable."[12] This misstatement has likewise been reiterated by various bloggers, who state that, "The FCC estimates that that pole attachment fees are about 20 percent of the total cost of deploying fiber optic cable needed for broadband networks."[13] And the 20 percent figure has taken on a life of its own—even without attribution to the Plan. For example, some sources claim that rights-of-way access alone constitutes 20 percent of construction costs: "The expense of construction and rights-of-way permits for laying fiber often amounts to 20 percent of the cost of building fiber routes for networks."[14] And yet, as shown above, in some places there is no fee at all (and yet no build-out) and in other areas, the fee is dramatically lower.

To be sure, many localities charge ongoing fees for use or occupancy of the rights-of-way. But these costs are part of the ongoing expenses of system operation, not part of the *deployment* costs.

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[12] Brooks Boliek, April 7, 2011, Politico, "FCC aims to lower power-pole fees" (available online at http://www.politico.com/news/stories/0411/52665.html#ixzz1Oe1vMPjz).

[13] Fiber to the Whatever, "FCC believes lower pole fees will lead to wider broadband deployments," April 7, 2011 (emphasis added) (available at http://fibertothewhatever.com/wp/news/fcc-believes-lower-pole-fees-will-lead-to-wider-broadband-deployments); *see also* FierceTelecom, Ethernut, "FCC believes lower pole fees will lead to wider broadband deployments," April 9, 2011(available at http://www.ethernut.net/tag/utilities/)

[14] http://riaco-op.net/493652-Optical-Wireless-Solutions-Based-on-Free-Space-Optical-FSO.html, April 9, 2011.

5 Deployment decisions flow from analysis of a wide range of construction and operating costs, of which public rights-of-way access is a relatively minor matter

A commercial broadband deployment decision comes down to a complex comparison of known costs versus expected revenue, a classic return on investment calculation. While it is difficult to isolate the factors that lead to so complex an investment,[15] it is hardly insightful to note that private broadband investment dollars flow to those areas where potential return on investment is highest and the business case for investment is strongest. This ROI analysis is based on a cost versus revenue ratio that calculates where the investor's dollars are best spent.

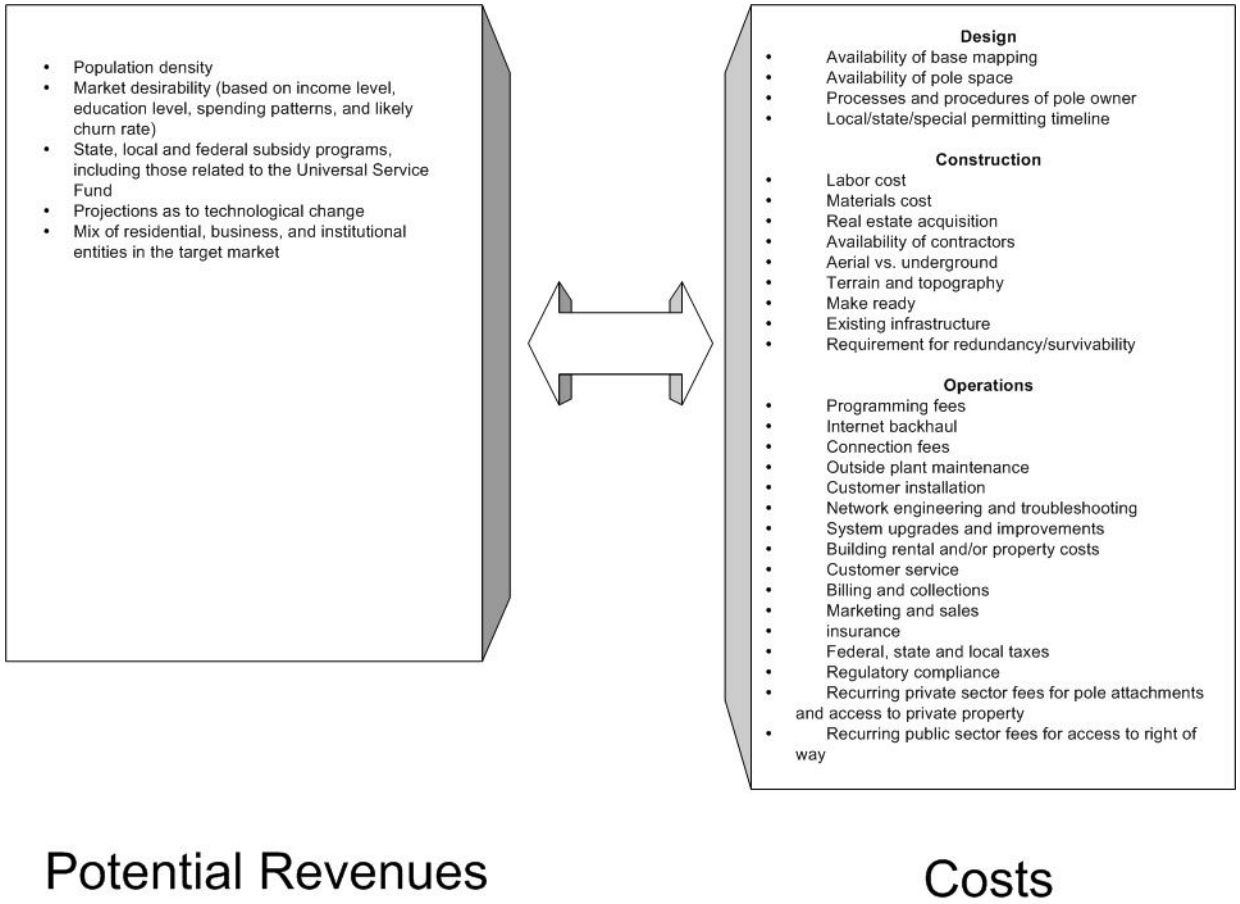
In our experience observing the various sectors of the communications industry, as well as working on public and non-profit broadband projects in the United States and abroad, there exist a wide range of substantial cost and revenue factors that determine investment patterns with respect to construction or upgrade of communications infrastructure. In simplified form, that list can include (on the cost side):

- A full range of costs of design, including those described in Section 2
- A full range of costs of construction, including those described in Section 3
- A full range of costs of operations

These are summarized in Figure 1.

[15]Analogous to rights-of-way fees in this regard is the relatively small tax levied by some states on Internet access. Economists at the University of Tennessee found "no empirical evidence that Internet access rates are lower in states that have levied a tax on Internet access, all else equal." Nor did they find a difference in broadband deployment between those states. Donald Bruce, John Deskins, and William F. Fox, "Has Internet Access Taxation Affected Internet Use?" *Public Finance Review,* volume 32, No. 2, 2004.

Figure 1 – Return on Investment Is Modeled Based on Potential Revenues and Costs



Based on our experience observing broadband communications build-out patterns since the advent of the broadband cable platform in the 1970s, changes to either permitting fees or to ongoing fees for access to rights-of-way access are unlikely to change the ratio enough to encourage investment where it is otherwise unfavorable. This is especially true in a rural area such that it would become more desirable for investment relative to more densely populated areas where per premises build-out costs are lower and per capita revenue projections are higher.

In our experience, the fundamental dynamic of broadband build-out is that wireline build-out is capital intensive and investment dollars flow to areas where projected returns are greatest because demand is highest and most concentrated. Rights-of-way fees do not change that fundamental dynamic. In fact, it is our observation that carrier deployment investment decisions are made centrally and that the carriers' operating entities in various localities and regions are competing with each other for investment dollar allocations. As a result, even where the economics of rural build-out could be marginally improved (though elimination or

reduction of a cost of doing business), investment patterns do not change because the fundamental economics do not change. We have never observed a build-out scenario where reduced marginal costs such as rights-of-way diverted to a rural or underserved area funds that were allocated for build-out in more populous areas.

This observation is supported by independently-evaluated data. The U.S. Government Accountability Office attributes broadband deployment decisions to a diverse collection of factors relating to "both the cost to deploy and operate a broadband network and the expected demand for broadband service."[16] Indeed, a company "will deploy broadband service in an area only if the company believes that such a deployment will be profitable."[17]

As the Center on Budget and Policy Priorities has explained in the context of a related proceeding:

> Where to make broadband available, and when, are fundamental strategic decisions for telephone, cable TV, and wireless access providers that affect billions of dollars in annual investment spending. These decisions are largely being driven by the income levels of potential customers. They are also strongly influenced by the enormous cost differences incurred in deploying Internet access infrastructure to sparsely populated rural areas, as compared to crowded urban neighborhoods dominated by multifamily buildings or suburban subdivisions in which single-family homes predominate. There is no evidence at all to suggest that these decisions have been influenced to the slightest degree by the presence or absence of existing state and local access taxes.[18]

Indeed, according to GAO, "the decision to deploy broadband service is a function of:

- The population in the area
- The population density in the area
- The percentage of the population residing in an urban area
- The per capita income in the area
- The educational attainment of the population in the area
- The population teleworking in the area
- The age of the population in the area
- The distance to a metropolitan area with a population of 250,000 or more

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[16] US GAO, GAO-06-426, May 2006, Telecommunications: Broadband Deployment Is Extensive throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas," at 4 (http://www.gao.gov/new.items/d06426.pdf).

[17] Ibid., 46.

[18] Michael Mazerov, "The Internet Tax Freedom Act and the Digital Divide," Center on Budget and Policy Priorities, Sept. 26, 2007, at 6 (http://www.cbpp.org/files/9-11-07sfp.pdf) (while this paper assesses the impact of taxation for Internet services, we contend that rights-of-way access fees represent a similar modest cost relative to the cited factors influencing deployment).

- Whether the state in which the area is located imposed a tax on Internet access"[19]

Frankly, in our experience, there is almost nothing that any local government can do to encourage carrier build-out of advanced networks where the carrier does not already have a compelling business interest and business plan to achieve the same goal. In fact, we have, with and on behalf of many of our local government clients, approached carriers to request enhanced build-out and to inquire as to how the locality can facilitate and enable such build-out (the effort to request and sometimes plead for carrier investment is almost a universal first step before any locality investigates potential public broadband projects). In both rural and urban areas, the responses have uniformly been negative—even where localities commit to eliminating regulation and fees, we have not seen carriers commit to new investment. In addition, we hear carriers frequently inform the locality that existing facilities adequately meet consumer and business needs, and that no additional investment is necessary.

[19] Ibid, 46-47.

6 Conclusion

Local permitting processes and fees have very small impact on the broadband design and deployment process, in the experience of CTC engineers and analysts, participating in and observing wireline broadband deployment across the United States over two decades. In fact, the permitting process and local government coordination can help and facilitate deployment. When it is done effectively, it protects the integrity of existing infrastructure and provides opportunities for joint trench construction and other economies of scale.

The optimal way to facilitate and smooth the permitting process is for carriers to work with localities to prepare for, anticipate, and stage the permitting process. Carriers can help themselves through reasonable collaborative practices such as joint advance planning of the application process, reasonable staging of application filing (rather than filing large numbers all at once and expecting government staff to process them overnight), and filing of complete and accurate applications.

It is our experience that localities are highly motivated to facilitate and incentivize broadband build-out, and that they are willing to use the permitting and other processes to enable and smooth the deployment process as much as possible. Broadband acceleration can best be achieved if carriers undertake a similarly collaborative, constructive engagement with localities.

Exhibit G

Effect on Broadband Deployment of Local Government Right of Way Fees and Practices

By,

Bryce Ward

July 18, 2011

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ECONorthwest specializes in economics, planning, and finance. Founded in 1974, we're one of the oldest independent economic consulting firms in the Pacific Northwest. ECONorthwest has extensive experience applying rigorous analytical methods to examine the benefits, costs, and other economic effects of environmental and natural resource topics for a diverse array of public and private clients throughout the United States and across the globe.

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Bryce Ward, Senior Economist A-2

Edward MacMullan, Senior Economist A-9

I. PURPOSE

In this report, we[1] comment on economic issues of right-of-way (ROW) use raised by the Federal Communications Commission's (FCC) *Notice of Inquiry* (NOI) in the matter of, "Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting." Specifically, we consider whether (a) there is evidence that ROW fees charged by local governments are affecting broadband (BB) adoption or deployment; (b) whether there is reason to believe that fees charged in some locations are likely to impact deployment or adoption in other locations; (c) whether there are bases for setting reasonable market-based fees; and (d) whether there is a reason to be concerned that the fees may reflect monopoly power. These issues are raised by several of the information requests in the NOI[2]:

> *To what extent and in what circumstances are rights of way or wireless facilities siting charges reasonable?*
>
> *What are appropriate criteria for determining the reasonableness of such charges?*
>
> *Are permitting or application fees unreasonable to the extent they exceed amounts that would recover administrative and other specifically identifiable costs?*
>
> *Are "market based" rates for use of public rights of way or publicly-owned wireless facilities sites reasonable?*
>
> *Are market-based rates substantially higher than cost-based rates?*

[1] Bryce Ward Ph.D., directed this analysis. See Appendix A for his vita. ECONorthwest staff, Ed MacMullan, Paul Thoma, and Philip Taylor, worked under Dr. Ward's direction.

[2] FCC. 2011. Notice of Inquiry In the Matter of Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting. WC Docket No. 11-59. April 7. Page 8.

II. SUMMARY OF CONCLUSIONS

Our analysis of the available data on ROW fees and BB deployment found that ROW fees have no measurable effect on deployment. Areas where local governments' authority to levy fees is strictly limited have the same levels of BB deployment and adoption as areas where local governments have relatively wider latitude to recover fair rents for use of the ROW.

Other factors likely explain the differences in deployment and adoption observed across the country. For instance, the relatively small percentage of communities un-served by BB account for a small percentage of the U.S. population. These communities lack BB services because of their isolated location, far from centers of population and commerce. These communities typically have few residences and businesses dispersed across large geographic areas. The costs of installing BB infrastructure and providing service greatly exceed the revenues that providers can earn on these services. The FCC calculates this gap at over $23 billion. Our analysis shows that limiting or abolishing ROW fees and subsidizing BB in currently un-served areas would likely have no measurable effect on BB penetration into most of these areas. The ROW-savings would be, at most, a small fraction of the required investment.

The literature on BB adoption identifies cost of service as one of the many factors that can influence adoption. The relationship between cost and adoption, however, is complex because of the many factors included in the cost of using or accessing BB service. Even if lower ROW fees were passed onto consumers as lower prices, this would not address many of the relevant costs factors that inhibit BB adoption—such as requiring deposits or long-term contracts, costs of computers and software, price increases after introductory offers expire, and the cost of purchasing BB bundled with other, unwanted services. A large gap exists between what current non-users say they would be willing to pay for BB services, and the maximum cost savings they could expect if providers passed on ROW-fee savings. Limiting or abolishing ROW fees would likely have little effect on BB adoption.

It is even more unlikely that limiting or abolishing ROW fees would have an impact on adoption given that BB providers advertise their, often national, prices excluding taxes, fees, installation costs and other costs. Unless lowering ROW fees in the places they are currently allowed led to changes in the nationally advertised prices, potential new customers would be unlikely to know the extent to which ROW-fee savings would impact the price they pay for BB services.

One argument by private BB providers for limiting or abolishing the ROW fees that they pay local jurisdictions is that the providers would use some of the savings to subsidize BB services in currently un-served or under-served higher cost areas. Even if one assumed that ROW fees drove BB deployment, such voluntary cross subsidization makes no economic sense for profit making firms. Firms allocate capital to investment that will generate the highest returns. It makes no business sense for private communications companies to take savings from not paying ROW fees and using that savings to fund less-profitable operations. More likely the firms would pocket the

savings and increase their profits. But, because fees are unlikely to drive deployment, even if we assume that BB providers did distribute ROW-fee savings from one market to another, it would likely have no measurable effect on BB penetration or adoption.

Allowing state and local governments to charge market value for use of public ROW is consistent with the economic principle of using prices to allocate scarce resources. From an economic perspective, a locality's ROW is a scarce resource just as lands—public or private—outside a ROW are scarce. Charging a fee for ROW access helps ensure that the ROW will be used efficiently, that is, that the ROW will not be misused or wasted. Furthermore, the closer the fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

Reasonable charges for ROW can be established through any number of well-recognized mechanisms, including but not limited to contract negotiations. Local jurisdictions have little incentive to act as monopolists when negotiating or setting ROW fees. Local governments have different goals, responsibilities, and functions than do corporate entities. Localities hold resources—including ROW resources—in trust for their citizens and businesses. The local interest in promoting economic growth and development for residents and businesses disciplines ROW pricing. Also, local governments compete vigorously with one another to attract and encourage deployment of advanced and reliable utilities. Thus, local jurisdictions have a strong incentive not to overprice ROW access: a community that discouraged ROW deployment runs the risk of losing businesses and residents to neighboring communities.

While we find no evidence that a public policy that actually limited existing ROW fees would produce meaningful benefits in increased BB deployment or adoption, such a policy would reduce local revenues. Jurisdictions may be required to recover the lost revenues by raising taxes or fees charged to others. Another response could be to cut services. A locality may be forced to reduce the planning and management actions that help maintain efficient ROW uses. This would allow ROW users to externalize their own costs onto other ROW users. Also, the lack of efficient allocation of ROW resources could drive additional ROW costs onto taxpayers, and adversely affect residents, businesses, and ROW users. In addition, there would be a cost to regulation and compliance that could itself be substantial, and that would add to the negative impact of reducing ROW fees.

Given the absence of obvious, measurable benefits to BB deployment or adoption from regulating ROW fees, together with the prospect of harm to BB consumers, residents, businesses, telecom providers and other ROW users, and additional direct and indirect regulatory costs, it is difficult to find an economic justification for regulating local rights of way charges or practices.

III. No Evidence that ROW Fees Affect BB Deployment or Adoption

Underlying the premise behind FCC's inquiry into ROW fees is the assumption that reducing ROW fees will reduce the operating expenses of BB providers, which will ultimately yield increased BB deployment and adoption. This assumption may have a facial appeal to some. The available facts, however, describe a much more complex relationship between ROW fees and BB deployment and adoption. Our review of the available data does not find evidence to support the hypothesis that abolishing ROW fess would increase BB deployment or adoption. Such an action, however, would likely generate significant costs for a jurisdiction's residents, businesses, telecoms and other ROW users.

A. Do ROW Fees Affect BB Deployment?

Based on our analysis of the available data, we do not find evidence that ROW fees have a measurable impact on BB deployment. If ROW charges reduce BB deployment, areas with ROW charges should have less BB than areas without ROW charges. Our analysis does not find such a relationship. Areas with ROW charges have the same BB deployment rates as areas without ROW charges.

Our results agree with results from the only previous empirical study we found of ROW fees, ROW practices and BB deployment, a study prepared by Dr. Alan Pearce. Dr. Pearce compared competition in communities that charged fees for use of ROW by telecommunications companies, and that regulated use of the rights of way, and those that charged no fees, and had fewer right of way regulations. Dr. Pearce found that charges and regulatory practices did not deter competition, which necessarily means that the practices did not deter deployment of telecommunications facilities. Indeed, he concluded that by adopting a sound approach to pricing public property (charging market value for its use) and by regulating the use of that property to ensure that it functioned properly, localities created an environment which made the market more attractive to providers. This study was submitted to the FCC in response to the National Broadband Plan.[3]

Following Pearce, we conduct an analysis that compares BB deployment in areas with ROW charges to similar areas without ROW charges. To complete this analysis, we use data on BB deployment from the National Broadband Map,[4] data on ROW charges collected from a variety of sources, and data on other local characteristics (mostly from the Census). Specifically, we conducted a regression analysis that regressed the share of state population with access to various measures of broadband[5] on a categorical variable

[3] http://fjallfoss.fcc.gov/ecfs/document/view?id=7020247000

[4] US Dept of Commerce, National Telecommunication and Information Administration, State Broadband Initiative (June 30, 2010)

[5] We focus on the share with access to BB providers who offer download speeds greater than 3Mpbs and upload speeds greater than 0.768Mpbs, download speeds greater than 50Mpbs, upload speeds greater than 10Mpbs, and the share who have access to 3 or more BB providers. The data for the share with access to

that describes allowed ROW charges,[6] and local characteristics that might affect BB deployment or adoption (e.g., population, population density, share living in urban areas, median household income, share with a college degree, etc.).[7]

In this report, we focus on state-level differences in allowed ROW charges; however, we also conducted analyses that examined differences in actual fees and taxes across municipalities using data on 119 Oregon municipalities and the 59 cities examined in Tuerck et al (2007) that yield results similar to what we found in our state level analysis.[8]

ROW fees vary widely across both states and BB platforms. The Communications Act allows state and local governments to charge cable providers 5% of gross revenues in return for the grant of a cable franchise, which authorizes the holder to provide cable service via facilities in the rights of way.[9] Many local jurisdictions charge cable providers a franchise fee equal to 5% of gross revenues. However, some states limit franchise fees to amounts less than 5% (e.g., Rhode Island limits cable fees to 3% and Kentucky provides for a 2.4% tax on video services and localities must forego cable franchise fees to obtain the tax collection[10]).

Section 253(a) of the Communications Act provides that "no State or local statute or regulation…may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service," but it goes on to state that "[n]othing in this section affects the authority of a State or local government to… require fair and reasonable compensation from telecommunications providers, on a

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>3Mpbs down and >0.768up and 3 or more providers were obtained from http://www.broadbandmap.gov/analyze. To analyze the data for higher speeds, we downloaded the raw data files for each state and calculate our own shares. We did not have access to the 2009 Geolytics population estimates for the 2000 census blocks used to create the estimates on the website. Instead, we used population estimates from the 2000 census to calculate our estimates. We assume that if any part of the block has access to a certain provider, then the entire population in the block has access.

[6] Obtaining data on the variation in ROW fees was difficult. Ideally, we would obtain a complete description of ROW charges (and other telecommunications taxes) for a large sample of jurisdictions. In the absence of that data we relied on (a) description of allowed state ROW charges from the "50-State Survey of Rights-of-Way Statutes" completed by NTIA (www.ntia.doc.gov/ntiahome/**staterow**/**row**table.pdf) , (b) description of each state's average state and local telecommunications taxes assembled by the Council on State Taxation (Telecommunications Tax Task Force of the Council on State Taxation (2005) "2004 State Study and Report on Telecommunications Taxation," Washington, DC.), (c) surveys or studies of municipal taxes or fees produced by various state governments or municipal organizations[6], and (d) local ordinances; and (e) information collected through various studies (like the Pearce study) and studies by utility commissions. Given our imperfect ability to classify states into ROW fee categories, we conducted a number of analyses that assigned states' with ambiguous ROW statutes to different categories. None of these alternative classifications affect our conclusions.

[7]Studies that describe similar analyses include: Kolko, J. (2010) "Does Broadband Boost Local Economic Development," Public Policy Institute of California., Burton, M.L. and M.J. Hicks (2005) "The Residential and Commercial Benefits on Rural Broadband: Evidence from Central Appalachia," Hu, W. and J.E.Prieger (2007) "The Timing of Broadband Provision: The Role of Competition and Demographics," AEI-Brookings Joint Center for Regulatory Studies *Working Paper 07-06.*

[8] League of Oregon Cities (2008) "Franchise Fee Survey," Summer 2008; Tuerck, D,, P. Bachman, S.Titch, and J.Rutledge (2007) "Taxes and Fees on Telecommunication Services" The Heartland Institute, May 2007.

[9] 47 U.S.C. Sec. 542

[10] 47 U.S.C. Sec. 542, R.I.Gen Laws § 39-19, KY. Rev. Stat. Ann. § 136.616(2)(a)

competitively neutral and nondiscriminatory basis, for use of public rights-of-way on a nondiscriminatory basis…" Relative to fees on cable services, fees vary more widely across states. Some states do not limit municipal fees as long as they meet the "fair and reasonable" criteria (e.g., Maryland and New York). Other states provide for gross-revenues based fees (e.g., Rhode Island law permits fees up to 3% and Oregon law permits fees of up to 7% of gross revenues on incumbent local exchange revenues[11]). Still other states do not allow a rental fee at all, but allow local governments to charge fees to recover specified costs (e.g., Alaska, California[12]) or costs of providing services. (e.g., New Jersey[13]).

To investigate the potential effects of ROW fees on BB deployment, we first compared BB deployment in states that allow telecommunications ROW charges that are not tied to a cost calculation (the "Fair and Reasonable Charge" states) to deployment in states that limit ROW charges to telecommunications companies to some defined portion of costs, (the "Cost" states) for four categories of BB deployment. Specifically, we examined the share of each state's population that lived in an area with more than three BB providers, the share that lived in an area with greater than 3Mpbs download speeds and greater than 0.768Mpbs upload speeds, the share living in areas with greater than 50Mpbs download speed, and the share living in areas with greater than 10Mpbs upload speeds. We observe no statistically significant difference in deployment between the "Fair and Reasonable Charge" states and the "cost" states, and the largest differences we do observe (for more advanced speeds) suggest greater deployment in ROW fee states. We summarize these results in Table 1.

[11] Or. Rev. Stat. § 221.515

[12] Alaska Stat. § 42.05.251, California Government Code § 50030

[13] N.J.S.A. §54:30A-124

Table 1. Differences in broadband deployment for states that allow ROW rent and states that limit ROW fees to costs

	Share with download speed >3Mpbs and upload speed >0.7Mpbs	Share with 3+ providers (any technology)	Share with max download speed >50 Mpbs	Share with max upload speed >10 Mpbs
"Fair and Reasonable" states	0.96 (0.01)	0.93 (0.02)	0.35 (0.08)	0.39 (0.09)
"Cost" states	0.94 (0.02)	0.94 (0.03)	0.21 (0.07)	0.28 (0.07)
Difference	0.02 (0.03)	-0.02 (0.03)	0.14 (0.11)	0.11 (0.12)
Difference, controlling for state characteristics	0.01 (0.03)	-0.02 (0.03)	0.22 (0.11)	0.14 (0.13)

Source: ECONorthwest

It is possible that the states that allow larger ROW fees differ from those that limit fees to costs, and that these differences obscure the relationship between ROW fees and BB deployment. To address this possibility, we compared BB deployment in states with ROW fees to otherwise similar states without them. For instance, we compared a state like Oregon, where many localities charge gross-revenues based fees to both cable and telecommunications companies, to a similar state like Colorado, which limits localities to charging telecommunications companies a fee to recover costs incurred in processing ROW permits.[14] Comparing these two states, we found the same results. Ninety-eight percent of Oregonians have access to broadband with greater than 3 Mpbs down and 0.768 Mpbs up, and ninety-nine percent of Coloradoans do. One-hundred percent of Oregonians have access to greater than 3 providers, and ninety-eight percent of Coloradoans do. However, with respect to advanced metrics, Oregon outpaces Colorado by a wide margin. Sixty-eight percent of Oregonians have access to BB with download speeds greater than 50Mpbs, but less than 2 percent of Coloradoans do.

In the final row of Table 1, we present the results of a statistical analysis that controlled for factors other than ROW charges that could affect BB deployment. Specifically, we controlled for factors that may affect supply of (e.g., population density or the share of the population living in rural areas) and demand for (e.g., median household income, share of population with a college degree, share non-white, share older than 60, etc.) BB

[14] Colorado and Oregon have relatively similar demographics. If anything, based on demographic characteristics, we expect Colorado to have greater levels of BB deployment and adoption. Colorado has higher median income, greater population density, a higher share of its population with college degrees (which all typically correlate with greater BB deployment and adoption).

services.[15] Even after controlling for these other factors, we observe no difference in BB deployment between areas with more liberal ROW charges and areas where charges to telecommunications companies are limited to actual costs, and more liberal states appear to have higher shares of their state's population living in areas with access to higher speed BB service (although these differences are not statistically significant).

We are aware that some states, (e.g., Florida) have replaced franchise fees with a statewide tax and that other states allow localities to level other local taxes on telecommunications revenues (e.g., utility taxes). As such, the share of telecom revenue collected by localities via taxes or fees may not differ across states. This is one potential reason why we did not observe a relationship between ROW fees and deployment. We conducted additional analyses that used differences in tax rates across places and found results similar to those described above – states with higher effective state and local taxes on telecommunication have access to BB at least as good (and in some cases better) than states with lower effective taxes on telecommunication.

While there are some weaknesses in the underlying data on which the analysis relies, at the very least one would have expected to see some consistent indication of a relationship between ROW charges and deployment or adoption if there was one.[16] Based our analysis, however, we find no support for the conclusion that reductions in ROW fees will meaningfully increase BB deployment. Before the FCC takes any action based on the presumption that reducing ROW fees will increase BB deployment, they should attempt more rigorous study of this issue.

The finding that ROW fees do not depress BB deployment may surprise some. Adopting simple economic intuition, some expect that reducing ROW charges will make BB deployment cheaper (or more profitable) and therefore encourage BB deployment. The actual economics, though, are more complicated. It is not difficult to imagine a number of plausible explanations for why ROW fees do not adversely affect BB deployment. For instance, it is possible that providers pass most of the cost of the fee onto consumers in the form of higher prices (and thus fees only marginally affect provider profits).[17]

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[15] Specifically we control for ln(population density), ln(population), ln(median HH income), share of population with college degrees, share older than age 60, share white, and share living in urban areas. We include all 50 states (and DC). States we cannot classify as "fair and reasonable" or "cost" states, we include as "other." To correct for potentially heteroskedastic errors, we use robust standard errors.

[16] Our analysis is an initial analysis and not a definitive analysis in light of the absence of ideal, exogenous data on ROW charges (as described in footnote six), and better data on BB deployment and adoption.

[17] We do not know the extent to which this occurs. Assessing the incidence of ROW charges in current telecommunications markets is difficult. In general, how much of a tax/fee is paid by different groups depends on their relative responsiveness to price changes – with the general rule that the most price insensitive groups pay most of the tax. For instance, 20 years ago, Hausman (2000) pointed out demand for basic wireline telephone service was not very sensitive to price (i.e., demand was inelastic), thus consumers paid nearly all of the taxes and fees imposed on wireline telephone service. A little over 10 years ago, demand for BB was fairly sensitive to price, as such, Goolsbee (2006) found that consumers likely paid between 50-60% of any tax on BB (with producers paying the rest). Dutz et al (2009), though, argue that in recent years demand for BB has become less sensitive. As such, simple economic theory would argue that consumers now pay an even greater share of ROW fees (and other telecommunications taxes); however, Christensen et al (2001) point out this potential increase in the share paid by consumers may be muted by

It is also possible that the gap between profitable and unprofitable investments dwarfs any change in profits from lower ROW fees. For instance, many analysts have concluded that communities that currently lack access to BB services lack those services because the costs of installing and providing services in these locations significantly exceed the revenues providers can earn on the services.[18] This has little to do with the ROW fees that local jurisdictions charge in areas where providers supply BB services.

Recent FCC analyses, which rely on improved data collection efforts, describe in detail the locations and characteristics of communities that do not have BB services, and the barriers to BB penetration into these communities.[19] The common characteristics among these communities include:

- Rural, isolated locations, far from centers of population and commerce.
- Relatively few residents, households, and businesses disbursed across large geographic areas.
- Mostly low-income, low-education households.
- A large percentage of residents uninterested in using the internet.

States with low shares of their populations who can access higher speed technologies tend to have similar characteristics.

The un-served communities account for a small percentage of the total U.S. population. FCC's *National Broadband Plan*, released in March 2010, reports an un-served population of approximately 14 million residents, or 4.5 percent of the U.S. population.[20] FCC's

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changing technology and the ability to switch among cable, wireline, and wireless services. Hausman, J. (2000) "Efficiency effects on the US economy from wireless taxation." *National Tax Journal* 53(2):733-742.; Goolsbee, A. (2006) "The Value of Broadband and the Deadweight Loss of Taxing New Technology," *The B.E. Journal of Economic Analysis & Policy* 0(1).; Dutz, M., J.Orzag, and R. Willig (2009) "The Substantial Consumer Benefits of Broadband Connectivity for US Households" CompassLexicon, July 2009.; Christensen, K., R.J. Cline, and T.S.Neubig (2001) "Total Corporate Taxation: Hidden, Above-the-Line, Non-Income Taxes" *State Tax Notes* (November 12, 2001), p.529-30.

[18] FCC. 2011. *Seventh BB Progress Report and Order on Reconsideration*. In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion. GN Docket No. 10-159. May 20; FCC. *The Broadband Availability Gap OBI Technical Paper No. 1*. April; FCC. 2010. *Connecting America: The National Broadband Plan*. March; FCC. 2011. *Bringing Broadband to Rural America: Update To Report On A Rural Broadband Strategy*. GN Docket No. 11-16. June 17; Schadelbauer, R. 2011.*The BB Adoption Summit All Aboard? Tackling Broadband Adoption. National Telecommunications Cooperative Association*. April 6; Rosen, J. 2011. "Universal Service Fund Reform: Expanding Broadband Internet Access in the United States," *Issues In Technology Innovation*. No. 8, April. Center for Technology Innovation at Brookings; Carlson, E. No date. *Broadband Adoption Barriers and Impacts*. A literature review; Smith, A. 2010. *Home Broadband 2010*. Pew Internet & American Life Project. August 11.

[19] FCC 2010, *Seventh BB Progress Report*; FCC 2010, *The Broadband Availability Gap*; FCC 2011, *The National BB Plan*; FCC 2011, *Bringing Broadband to Rural America*.

[20] FCC 2010, *The National Broadband Plan*, p. 136.

more recent *Seventh Broadband Progress* report from May 2011, puts the figure at 26.2 million, or 8.4 percent of U.S. population.[21]

The FCC report, *The Broadband Availability Gap*, describes the details of these financial barriers and the amounts of subsidy necessary for private provider to serve these communities. [22]

- The total economic subsidy to connect and supply BB services is $23.5 billion.
- Subsidizing all or part of the initial connection—the capital expenditures for the infrastructure—would allow private BB providers to serve approximately 46 percent of the un-served households. These providers would earn enough revenue to cover their costs so long as they do not pay the capital costs of installation.
- Servicing the remaining 54 percent of un-served households will require a one-time subsidy to install the infrastructure, and ongoing subsidies to cover the service costs.
- Serving the 250,000 households that require the greatest subsidy would cost approximately $14 billion of the total $23.5 billion to connect all 14 million un-served households. That $14 billion would be spent on just two-tenths of one percent of all U.S. households. *The average cost per household is approximately $56,000*.

The financial barriers limiting BB penetration into currently un-served areas are unrelated to ROW fees charged by local jurisdiction. Limiting or abolishing these fees will likely have no impact on increasing BB supply in these areas.

To further illustrate how unlikely ROW fees are to explain the lack of BB penetration in areas that currently lack it, consider the following back-of-the-envelope calculation based on the investment gap values mentioned above.

For an area to lack BB, the expected profits from serving an area must fall short of the amount needed to justify the investments required to serve it. For ROW fees to cause BB to not be available in an area, the expected change in profits from eliminating the ROW fee must be sufficient to change the necessary investments from unprofitable to profitable.

Consider, for instance, Josephine County in Oregon. According to the Investment Gap study, this county faces an investment gap of $28.8 million (or $7,106 per household). This is roughly the average per household gap for all counties.

If we assume that the average household pays $50 per month for BB, including a 5% franchise fee, then eliminating the franchise fee, at most, can increase provider profits by

[21] FCC 2011, *Seventh Broadband Progress Report*, p. 15.

[22] FCC 2010, *The National Broadband Plan*, p. 136-138.

$30 per household per year.[23] Thus, to assume that ROW fees prevent BB investments in Josephine County, we must believe that $30 per household per year—or $120,300 if every un-served household were expected to adopt BB if it were available—is the difference between a profitable and unprofitable $28.8 million investment. This is highly unlikely given the size of the required investment.

The FCC has better ways of increasing BB deployment in currently un-served areas—proven, effective public policies that work. The Universal Service Fund (USF) successfully extended and supports phone service throughout the U.S., including to the most remote and expensive service areas. The FCC originally designed and implemented the USF for the dominant technology at the time, landline phone service. The FCC proposes modifying and updating the USF to address barriers to BB penetration. The Connect America Fund (CAF) would modify the USF to include one-time and reoccurring subsidies that extend BB infrastructure and services to un-served areas. The Mobility Fund (MF) would provide one-time subsidies to extend wireless infrastructure.

Obvious parallels exist between the USF that subsidizes phone services in uneconomical markets and supplying BB and wireless services to many of these same communities. The point is not that the programs are perfect.[24] It is that from an economic standpoint these programs could be effective in encouraging BB deployment and adoption if properly adjusted and combined.[25]

B. Do ROW Fees Affect BB Adoption?

The literature on BB adoption identifies cost of service as one of the many factors that can influence adoption. The relationship between cost and adoption, however, is complex because of the many factors included in the cost of using or accessing BB service. Our own research, and results reported in the literature, indicates that to have more than a negligible impact on BB adoption, the total cost of BB services would have to drop by an amount much larger than could be achieved by limiting or abolishing ROW fees. A related point is that, to the extent that consumers purchase BB based on advertised monthly prices, which do not include taxes and fees, reducing ROW fees will have no impact on purchase decisions (unless the reduction in fees reduces the list price). For these and other reasons described below, limiting or abolishing ROW fees would likely have no impact, or at most a negligible effec on BB adoption.

A calculation of the difference between what non-adopters say they would be willing to pay for BB services, and the costs of BB services, shows just how far BB costs would have to drop to have any impact on increasing adoption. This drop is significantly more than could be achieved by passing on any ROW-fee saving.

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[23] This assumes that providers pay the entire ROW fee, consumers pay nothing. As we note above, consumers likely pay part—perhaps a large part—of telecom ROW fees.

[24] Rosen 2011.

[25] FCC. 2011. *Fifteenth Report in the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*. WT Docket No. 10-133.

Research on non-adopters conducted for the FCC indicates that the average monthly cost of BB service is $41. Yet, the most that non-adopters say they would be willing to pay for BB is $25 per month.[26] This $16 per month gap is many times the likely savings that telecoms could realize by not paying ROW fees. Assuming not paying ROW fees reduces the total cost of providing BB services by 5%, the telecom would save $2.05 per customer. Assuming the telecom passes the full amount of that savings on to their customers—which is unlikely for reasons mentioned elsewhere in this report—this still leaves a gap of $13.95 per month.

Our analysis of the statistical relationship between ROW fees and BB adoption found that adoption in states that allow ROW fees does not differ from adoption in states that limit ROW charges. Using a statistical analysis similar to the one we used to examine the relationship between ROW fees and deployment, described in Section III.A. above, we found a tiny negative relationship between ROW fees and adoption (states that limit ROW fees to actual costs have adoption rates that average 0.1 percentage point higher then states that do not limit ROW fees).[27] This relationship, however, was not statistically significant, which as we described above means the data indicate no relationship between state and local ROW fees and BB adoption.

The literature on the factors that influence or hinder BB adoption support our results. Cost of BB services was more of a factor inhibiting BB adoption years ago than it is today. Now, barriers other than cost are more important.[28] Recent research conducted for the FCC on BB use and adoption found that 35 percent of the U.S. population do not use BB at home.[29] The main reasons given for not adopting are as follows:

- 15 percent cite monthly bill
- 19 percent cite hardware costs, installation fees, or aversion to required long-term contracts
- 41 percent cite lack of digital literacy or lack of interest in using the Internet

Other researchers found a lack of interest in the internet as a significant barrier to adoption. A recent survey conducted by the Pew Internet & American Life Project found that approximately 21 percent of Americans do not use the Internet at all—at home or elsewhere. Of this population, only 10 percent said they would like to start using the Internet in the future. Thus, 90 percent of current non-users have no interest in using the

[26] Horrigan 2010.

[27] Our data on adoption rates come from: Section 8.3 of Exploring the Digital Nation: Home Broadband Internet Adoption in the United States, Prepared by Economics and Statistics Administration and National Telecommunications and Information Administration in the U.S. Department of Commerce, November 2010.

[28] Hauge, J. and J. Prieger. 2009. *Demand-Side Programs to Stimulate Adoption of Broadband: What Works?* October 14.

[29] Horrigan, J. 2010. *Broadband Adoption and Use in America OBI Working Paper Series No. 1*. Federal Communications Commission. February.

Internet even if they could. At the moment, this population appears content to remain non-users.[30]

Other cost-related barriers to BB adoption reported in the literature include:[31]

- requiring a deposit for new or low-income customers
- software costs, especially virus-protection programs
- computer maintenance costs
- price increases after introductory offers expire
- bundling of BB with other, unwanted services

Studies of BB adoption by residents of low-income households found that the decision to purchase BB services is a marginal decision. This population considers expenses for rent, food, utilities, and cell phone service necessities and more important than BB services. BB services are dropped or "unadopted" when the purchaser's available resources drop (because of job loss, health care costs and so on) or when prices increase unexpectedly so the service costs more than can be afforded (when introductory rates expire, for example) .[32] For this reason, researchers concluded that BB assistance programs should take the long view.

> "It is important to keep in mind that the [BB] adoption decision is not a one-time act of a customer choosing to purchase broadband Internet access, but rather an ongoing choice to keep using broadband month after month. It is therefore imperative that any support programs designed to make broadband affordable to those of limited means living in areas where the cost to serve is particularly high be both ongoing and sustainable."[33]

According to recent reports, consumers are adopting Internet-capable smartphones at a rate faster than almost any high-tech product in history. Most users who access the Internet exclusively using their smartphone are young minorities from low-income households. This group finds accessing the internet via smartphones a preferred alternative to purchasing more expensive computers and paying monthly DSL or cable bills.[34]

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[30] PEW Internet. 2010. *Home Broadband 2010.* PEW Internet & American Life Project. August 11; Schadelbauer, R. 2011. "All Aboard? Tackling Broadband Adoption," *The Broadband Adoption Summit.* National Telecommunications Cooperative Association. Washington, D.C. April 6. Page 14.

[31] Horrigan 2010; Dailey, D. et al. 2010. *Broadband Adoption in Low-Income Communities*. A Social Science Research Council Report. March; Schadelbauer, R. 2011. *The Broadband Summit, All Aboard? Tackling Broadband Adoption.* National Telecommunications Cooperative Association. April 6.

[32] Dailey et al. 2010.

[33] Schadelbauer 2011, p. 22.

[34] Kang, C. 2011. "As smartphones proliferate, some users are cutting the computer cord," The Washington Post and Bloomberg Business. July 11. http://www.washingtonpost.com/business/economy/a-smartphones-proliferate-some-users-are-cutting-the-computer-cord/2011/07/11/gIQA6ASi9H_story.html

The proceeding discussion described the complex relationship between BB cost and adoption. Of those who do not use BB at home, only 15 percent cite cost of monthly service as the reason. Cost, however, includes many factors that telecoms could not influence even if they paid lower ROW, and other factors (like deposits) that they could influence even without regulation of local fees and charges. Regulating ROW fees would do nothing to address the major barriers to BB adoption of lack of interest and low levels of digital literacy.

Another important reason why passing ROW-fee savings on to customers would likely have no measurable effect on BB adoption is the fact that BB providers do not include tax and fee information when quoting the price of their services. Our review of web sites of major BB providers[35] found that all of the providers list the monthly price of BB service *excluding taxes, fees, installation costs and other charges*. Thus, current non-adopters searching provider web sites would have no way taking ROW charges into account in deciding whether to purchase services. After initial adoption, the literature suggest that factors other than ROW fees—including the expiration of low introductory prices and the subscriber's financial situation—affect "un-adoption."

[35] Quest, www.qwest.com/residental/internet/broadbandlanding/; Verizon, www22.verizon.com/Residential/HighSpeedInternet/Plans/Plans.htm; Time Warner Cable, order.timewarnercable.com/OfferList.aspx ; AT&T, www.att.com/dsl/shop/plansShared.jsp?WT.SRCH=1; Comcast, www.comcast.com/shop/buyflow2/products.cspx?inflow=1.

IV. ROW Fees Charged in One Area Do Not Affect BB Deployment or Adoption in Other Areas

One argument by private BB providers for limiting or abolishing the ROW fees that they pay local jurisdictions is that the providers would use some of the savings to subsidize BB services in currently un-served or under-served higher cost areas. Such voluntary cross subsidization makes no economic sense for profit making firms. The prime directive for all private firms, including telecommunication firms, is generating the greatest returns to shareholders. Taking revenues earned on high-profit services—services provided in urban and suburban areas where they pay ROW fees—and voluntarily investing these revenues in low- or no-profit services cannot be justified from a profit or return-on-investment grounds. This is the financial equivalent of throwing money away.

Private telecommunications firms do have a history of voluntarily cross subsidizing among markets, but only to *increase* profits, not decrease them. For example, a firm operating in both a regulated and unregulated market has an incentive to shift costs from the unregulated to the regulated market. A related example is using the best and most advanced technology in the competitive market with a large user base, and using older, less efficient technology in the regulated, smaller market, for the same profit-maximizing reason.

The analytical assumptions underlying FCC's analysis of the BB availability gap describe the expected, profit-maximizing behavior of a telecommunication firm entering a BB market. The major analytical assumptions include:[36]

- Only profitable business cases will induce investments. Private capital will only fund investments in BB systems that return a profit.
- Investment decisions are made on the incremental value they generate. While firms strive to maximize the return on all their operations, investment decisions are evaluated based on the incremental value they provide.
- Markets currently un-served have their own unique or specific diseconomies of scale that affect the profitability—or lack thereof—of entering these markets. Entering these markets requires careful analysis of market details. A one-size-fits-all subsidy program will not work in these markets.

Previous Sections of this report summarize the mammoth financial challenges of bridging the BB gap for communities currently un-served or under-served. Researchers report that surmounting the barriers that limit BB penetration in these communities—including the costs of supplying these communities with BB services and the socioeconomic constraints of lower income, lower educational attainment and little interest in using BB services—requires more than a simplistic subsidy program. In an analogous study of cross-subsidies for telephone service, one researcher concluded,

[36] FCC 2010, *The Broadband Availability Gap*, p. 1-2.

> *"Reducing, or increasing, local telephone rates by a few dollars per month will do little to address fundamental problems of inequitable income distribution."*
>
> …
>
> *"Sector-specific regulators have no expertise at running poverty alleviation schemes and should not be doing so under the guise of setting rates."*[37]

We have not seen any information that supports the notion of voluntary cross subsidization by private telecom firms from a profitable to less or unprofitable market, and the consensus economic literature refutes the assumption that a rational firm would ever do so. Firms allocate capital to investments that will generate the highest returns. It makes no business sense for private telecoms to take savings from not paying ROW fees and to use this savings to fund less-profitable operations.

The FCC can look to the experience of local jurisdictions that include build-out requirements as a provision for ROW access for evidence that BB providers are unlikely to voluntarily cross subsidize from profitable to unprofitable markets. Jurisdictions include build-out provisions to ensure that BB providers provide access to *all* neighborhoods in a community as a requirement to connect any. This ensures complete coverage for the community. Without this provision, BB providers would limit services to the most profitable areas.

To the extent that regulating ROW fees increases provider profits, they may return these profits to shareholders, invest in profitable BB markets, invest in other markets, or some combination of these three.[38] It is highly unlikely, however, that they would voluntarily invest in currently un-served or underserved areas because to do so would be unprofitable.

As our analysis described in Section III shows, passing on any ROW-fee savings to potential customers would likely have no measurable impact on BB deployment or adoption. These results also apply when considering the impact of regulating the fees and right-of-way practices in a one market on services in other markets. Even assuming ROW-fee savings were shifted from one market to another, there would be no measurable impact on BB deployment or adoption for the reasons mentioned in the preceding Sections.

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[37] Levin, S. and S. Schmidt. No Date. *Telecommunications After Competition: Challenges, Institutions, Regulation*. Pages22-23.

[38] To argue that any investments would be made with any increased profits from reduced ROW fees, one must also assume that providers would not have found some other way to finance these investments. That is, one must assume that these investments would not have been made but for a change in profits from reduced ROW fees.

V. Setting Reasonable, Market-Based ROW Fees

The FCC's NOI asks several questions that suggest economically sound pricing mechanisms are inappropriate for pricing access for ROW use. In particular, the NOI asks:

> *Are "market based" rates for use of public rights of way or publicly-owned wireless facilities sites reasonable?*

In this section we describe fundamental economic concepts regarding using price signals and methods for setting prices that result in economically efficient and reasonable ROW fees, and conclude that "market-based" rates—by which we mean rates that property reflect the value of the asset—are reasonable.

A. Compensation for Use of Public Resources

Allowing state and local governments to charge for use of public ROW and other public property is consistent with the economic principle of using prices to allocate scarce resources. From an economic perspective, a locality's ROW is a scarce resource just as lands—public or private—outside a ROW are scarce. In contrast to "free resources," scarce resources do not "exist in such large quantities that they need not be rationed among those wishing to use them."[39]

Economic scarcity, though, encompasses more than a constraint on physical capacity. A resource can be scarce in an economic sense even if it can accommodate all users at a given moment in an engineering sense. For example, if the use of a resource by one party imposes costs on other parties, then it is scarce in an economic sense. This conclusion holds whether the affected party is a local government, another user of the ROW (a utility, a commuter, a truck driver, or anyone else) or a resident (a home owner whose property is affected by utility facilities in or under the street).

It is because a locality's ROW is scarce that charging for its use makes good economic sense. Economic texts describe a relationship between economic scarcity and economic cost, or opportunity cost:

"Just as scarcity implies the need for choice, so choice implies the existence of cost. … A decision to have more of one thing requires a decision to have less of something else. It is this fact that makes the first decision costly."[40]

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[39] Samuelson, Paul A. and William D. Nordhaus. 2001. *Economics*, 17th Edition. New York: McGraw-Hill. Page 765. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. *Microeconomics: Principles and Applications*. Cincinnati, OH: South-Western College Publishing. Page 483; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. *Microeconomics: Principles and Tools*, 2nd Edition. Upper Saddle River, N.J.: Prentice Hall. Page 2: Parkin, Michael. 1998. *Microeconomics*, 4th Edition. Reading, MA: Addison-Wesley. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. *Microeconomics*, 2nd Edition. New York: Worth Publishers. Pages 3-4.

[40] Lipsey, R., et al. 1990. *Microeconomics*, 9th Edition. New York: Harper & Row. Page 4. For other authors expressing the same concept, see Nicholson, Walter. 2000. *Intermediate Microeconomics*, 8th Edition. Fort Worth, TX: The Dryden Press. Page 17; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. Cited previously.

"It [opportunity cost] concerns the true economic costs or consequence of making decisions in a world where goods are scarce."[41]

The history of cities throughout the world offers compelling illustrations of economic scarcity, opportunity costs, and efficiency in the development of ROW.[42] Examples of cities in which we have observed such scarcity and opportunity costs first hand include New York, Chicago, San Francisco, Portland (Oregon), Tucson, Huntsville, New Orleans, and Seattle. This nearly universal pattern of municipal management of ROW has not arisen by chance or whim. It reflects real and substantial economic forces that create the so-called "joint-allocation problem," namely, allocating a single, scarce and therefore valuable resource among a number of competing demands.

Occupying space in the above- or below-ground portions of the ROW precludes a local government or others from using that same space now and in the future. That is, the three-dimensional space occupied by a given conduit or wire obviously cannot be occupied by another. Besides the physical space occupied by a conduit or pipe, many cities require minimum setbacks or clearances around utilities placed in the ROW. Also, depending on the specifics of the use, the installation, the maintenance, and the replacement of any given facility in the ROW may create problems for and impose costs on the locality and on other users of the ROW.

As applied to a locality's ROW, today's scarcity and the resulting opportunity costs will persist tomorrow. That is, today's scarcity manifests itself in those many locations in which the use of the ROW for one service inhibits the use of the ROW or other properties for other services by the same or other users. That scarcity and the associated negative spillover effects will persist into the future. Such negative effects may include increased excavation or construction costs, increased costs associated with design and planning, costs associated with loss-of-service attributed to construction accidents or

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Page 24; Parkin, Michael. 1993. *Macroeconomics*, 2nd Edition. Reading, MA; Addison-Wesley, Page 10; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5

[41] Samuelson, Paul A. and William D. Nordhaus. 1992. *Economics*, 14th Edition. New York: McGraw-Hill. Page 131. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. Cited previously. Page 18; McConnell, Campbell R. and Stanley L. Brue. 1996. *Economic*s, 13th Edition. New York: McGraw-Hill, Inc. Page 26; Parkin, Michael. 1998. Cited previously. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5.

[42] For various historical descriptions of the development of streets and rights of way, see Abbott, Carl. 1983. *Portland: Planning, Politics, and Growth in a Twentieth-Century City*. Lincoln, NE: University of Nebraska Press; Baldwin, Peter C. 1999. *Domesticating the Street: The Reform of Public Space in Hartford, 1850-1930*. Columbus, OH: Ohio State University Press. Pages 201-203, 207-208; Barrett, Paul. 1983. *The Automobile and Urban Transit: The Formation of Public Policy in Chicago, 1900-1930*. Philadelphia, PA: Temple University Press. Pages 13-14, 49-50; Bridenbaugh, Carl. 1938. *Cities in the Wilderness: The First Century of Urban Life in America 1625-1742*. New York: Alfred A Knopf. Pages 153-154, 159, 317; Hood, Clifton. 1993. *722 Miles: The Building of the Subways and How They Transformed New York*. New York: Simon & Schuster. Page 84; Pierce, Bessie Louise. 1937. *A History of Chicago: Volume I*. New York: University of Chicago Press. Pages 96, 336: Pierce, Bessie Louise. 1937. *A History of Chicago: Volume II*. New York: University of Chicago Press. Page 325; Quaife, Milo M. 1923. *Chicago's Highways Old and New: From Indian Trail to Motor Road*. Chicago, IL: D.F. Keller & Co. Pages 53-54, 60: Thwing, Anne Haven. 1920. *The Crooked and Narrow Streets of Boston: 1630-1822*. Boston: New England Historic Genealogical Society. Electronic Version; Whitehill, Walter Muir. 1968. *Boston: A Topographical History, 2nd Edition*. Cambridge, MA: The Belknap Press of Harvard University Press. Page 8.

other damage to services in the ROW, increased travel time for vehicular traffic on the ROW, and lost revenues for businesses whose customers are inconvenienced by ROW construction.

Expressed on a cost basis, ROW fees should compensate a local government not only for the opportunity costs of occupying space in the ROW, but also for the other costs the locality incurs related to the ROW. To the extent that a ROW fee does not capture the full range of costs that the locality incurs related to the ROW, the resulting cost will subsidize the ROW user. That is, the user will not pay the full cost of establishing, occupying and managing the ROW. A subsidy to the ROW user also results in uncompensated costs to the locality.

These costs include, at a minimum: the fixed costs of establishing and developing the ROW, the costs over the long term of managing the community-wide ROW, the daily or periodic short-term O&M costs, and related administrative costs. Measuring each of these costs for a given ROW transactions would be complex, time consuming and inefficient. There are other, less expensive ways to determine a fair and reasonable price, and those methods, which we describe in the next section, are commonly used by private entities and by federal, state, and local governments.

Like other real-estate assets within a local government's boundary, a locality's ROW yields value to the users of the ROW. In an economy based on competition, producers and owners of goods and services with economic value typically do not give them away free. In economic markets, prices serve as signals that help society put its resources to efficient use.[43] Not charging for use of the local government's ROW would treat it as if it were a free good with no economic value. "A true 'free good' is one which is not scarce … Examples of free goods are rare and perhaps becoming rarer still—sunshine in the Sahara Desert provides one example."[44]

Charging fees less than the value granted to the user for ROW access sends the signal that the resource is worth less than its true value. This will lead both to inefficient use of the ROW and to a subsidy to the user.

Allocating the ROW by first-come, first-serve or on some other non-market price makes no economic sense, especially given the external costs imposed on third parties if a ROW is over-consumed by any individual enterprise. The same result follows if one artificially limits a community to charging fees without regard to value. This is easily prevented by charging a ROW fee that reflects the ROW as a valuable asset or resource for which there are important and competing uses. Free and unrestricted–or underpriced—access to a locality's ROW allows a provider to avoid making choices that are important to make. For example, if a provider has a choice of proceeding down Route A and Route B, and

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[43] See, for example, Byrns, Ralph T. and Gerald W. Stone, Jr. 1992. *Economics*, 5th Edition. New York: HarperCollins. Page 71; Nicholson, Walter. 1998. *Microeconomic Theory*, 7th Edition. Fort Worth, TX: Dryden Press. Pages 514-515; Pindyck, Robert S. and Daniel L. Rubinfeld. 2000. *Microeconomics*, 5th Edition. Upper Saddle River, N.J.: Prentice Hall. Page 590; Samuelson, Paul A. and William D. Nordhaus. 2001. Cited previously. Pages 27, 291.

[44] Pearce, David W. (ed). 1997. *The MIT Dictionary of Modern Economics*, 4th Edition. Cambridge: The MIT Press, Page 163.

Route A passes through environmentally sensitive areas, one would want the provider to pay the cost of the environmental review and to pay all mitigation costs. This encourages a rational choice as to whether to proceed down one route or the other. Without proper price signals, providers can be expected to engage in behavior that will shift or increase costs to others and interfere with a balanced and economically use of this valuable and scarce asset.

Charging a fee helps ensure that the ROW will be used efficiently, that is, that the ROW will not be misused or wasted. Furthermore, the closer the fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

B. Calculating a Reasonable Price for Occupying Space in a Jurisdiction's ROW

Appraisal literature describes a number of methods for calculating the value of ROW access, and setting fair prices for its use. We describe four methods.[45] The central point here is not that these methods are the only methods, or that a price is unreasonable unless it passes muster under one of these four tests. Rather, it is that there are a number of well-recognized ways of efficiently pricing ROW use that do not require significant regulatory intervention or require one to conduct a detailed cost/allocation analysis.

1. Land-based appraisals: Analysts calculate the value of a ROW based on the value of land adjacent to the ROW. This is sometimes referred to as the "across-the-fence" (ATF) method. A variation on the ATF method acknowledges that because a ROW provides a continuous corridor, a ROW has a higher value to users than the disparate, unassembled adjacent parcels. This corridor value can exceed the ATF value by a factor of six or more.

2. The willing-buyer-and-willing-seller method: Analysts seek to replicate market negotiations over the value of the use of the ROW. The seller considers his or her costs, including the value he or she could earn from other uses of the land. The buyer considers the income-generating potential of the ROW and the costs of alternative routes.

3. Income-based methods of valuation: Analysts take as given that a variety of assets contribute to a firm's income or value. A ROW may be one of many income-generating assets from which a firm would expect to earn a reasonable return. The analysts base the market value of the use of the ROW on the return the asset generates for the firm.

4. The comparable-transactions method: Analysts base the value users of ROW attach to the transaction by looking at ales or rental agreements for similar ROW.

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[45] National Oceanic and Atmospheric Administration (NOAA). 2002. *Final Report: Fair Market Value Analysis for A Fiber Optic Cable Permit in National Marine Sanctuaries*. NOAA, National Ocean Service, National Marine Sanctuary Program. August. Pages 7-13.

Information on most ROW transactions between private entities remains confidential. More publicly available information exists on ROW agreements between municipalities and private firms that want access to municipal ROW. The study of comparable transactions is an established practice for valuing ROW.[46] The degree of similarity between the comparable transactions and the ROW at issue helps specify the high and low measures of value.[47] While there are certainly not the same numbers of ROW comparables as for home sales, there are a significant number of comparables.

One of the problems with regulating ROW prices is that the regulation may foreclose innovative approaches to pricing ROW access that benefits both parties. For example, a BB provider who is installing fiber may be willing to trade fiber for access to the ROW in cases where the land owners value use of fiber greater than the revenue earned on the ROW fee, and the costs to the BB provider of the fiber are less than the ROW fee. Similarly, a BB provider may prefer a gross-revenues based fee because the fees by definition become due as the provider generates cash flow. The ability of localities to negotiate and develop different approaches to pricing over time can be important in ensuring that the ROW is efficiently and effectively used.

Regarding the FCC's question, "Are 'market based' rates for use of public rights of way or publicly-owned wireless facilities sites reasonable?", yes they are. Charging such rates does not create a barriers to deployment, but do encourage efficient use of the ROW.

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[46] See, for example, Fitzgerald, Shawana. 2005. *Review of Fiber Optic Right of Way Pricing*. Prepared for the City of Portland. August 31. Page 6; NOAA. 2002. Cited previously; U.S. Department of Justice. 2001. *Uniform Appraisal Standards for Federal Land Acquisitions*. http://www.usdoj.gov/enrd/land-ack/yb2001.pdf

[47] Ring. A. 1970. *The Valuation of Real Estate*. Prentice Hall. In, Quan, D. and J. Quigley. 1989. "Inferring an Investment Return Series for Real Estate from Observations on Sales." *Journal of the American Real Estate and Urban Economics Association*, 17(2); and U.S. Department of Justice. 2001. Cited previously.

VI. No Evidence That ROW Fees Reflect Market Power

The FCC seeks information on the likelihood that local jurisdictions will exercise monopoly power and overcharge ROW users. Municipalities have strong incentives not to behave in such a manner.

Municipal entities have different goals, responsibilities, and functions than do corporate entities. Municipalities hold resources—including ROW resources—in trust for its citizens and businesses. For example, municipalities manage ROWs not to maximize profits or fiscal surpluses, but to promote economic development. The locality's interest in promoting economic development for residents and businesses disciplines its pricing of ROW access. To the extent that the electorate feels that elected officials have mismanaged the ROW access or other resources, or placed unreasonable restrictions on the use of private land, it can recall or not reelect these officials.

Moreover, the proposition that a local government would exercise monopoly power and charge supra-competitive rates to access its ROWs—even if it had such monopoly power—is a flawed economic-development strategy. Municipalities compete vigorously with one another to attract and encourage deployment of advanced and reliable utilities, that will in turn, attract and support new industrial, commercial and residential development. This is a strong incentive not to overprice access ROWs.

The fact that BB providers have incurred "sunk cost," as described by the FCC in the NOI, does not give local jurisdictions incentives to behave as a private firm might when it comes time to reauthorize a ROW agreement with the provider. In contract negotiations between two private, for-profit entities, each party has strong incentives to get the best deal they can. This includes using leverage one party may have over the other. The FCC's "sunk cost" argument assumes that because the BB provider incurred expenses installing infrastructure in the ROW, the local jurisdiction can use this as leverage against the provider during reauthorizing discussions. Localities have no such leverage, and the provider is not a helpless victim of sunk costs. In response to a demand for unreasonable ROW fees, a provider can state and publicize its position, that any increase in ROW fees will be passed through to subscribers. If the BB provider had to increase its prices to a level that disadvantaged the community in BB prices as compared to its competing localities, the local officials would disadvantage themselves in attracting businesses and jobs.

For these reasons and others, local jurisdictions have incentives to charge fair and reasonable ROW fees, even assuming that they have substantial market power as compared to providers.

VII. Responses by Local Jurisdictions to Reducing or Abolishing ROW Fees

In Sections III and IV we describe the likely outcomes of public policies that limit or abolish the ROW fees that local jurisdictions currently charge. We do not observe evidence that such an action would likely produce meaningful benefits in the form of increased BB penetration or adoption. Such a policy would, moreover, generate costs. There is, first, the cost of regulation itself. As suggested above, allowing for flexibility in price-setting allows communities and providers to agree on fees that can be easily calculated and enforced, and that can respond to market changes. Second, there is the cost caused if the federal government requires localities to provide access to property at less than market value – that is, if a subsidy is required. These costs—lost revenues to the local government and increased costs associated with responding to the federal regulation—could negatively affect telecom firms and consumers, residents and businesses, and the flow of services provided by jurisdictions.

There are only a few ways a locality can respond to increased costs and reduced revenues.

Jurisdictions could replace the lost revenue through new fees or taxes. Such a response could ultimately harm BB users. For example, if telecoms do not pass the savings from not paying ROW fees on to consumers, the consumers will see no change in their direct BB costs. If, however, the population of payees of the new replacement fee include BB customers, their total costs will increase by an amount in proportion to their portion of the new fee. Thus, BB consumers are worse off under this scenario.

If jurisdictions cannot replace the lost revenue or cover the increased costs through new fees or taxes, then the locality must cut services. For example, based on our experience we know that some jurisdictions use ROW fees to support efficient planning for and management of activities in the ROW. These efforts by the jurisdiction help avoid traffic and pedestrian disruption from construction activities in the ROW, or damaging infrastructure that occupies the ROW. ROW funds also support mapping the ROW that identifies congested areas. Reducing ROW revenues or adding regulatory costs could force jurisdictions to abandon ROW planning and management activities. Results could be business disruptions due to uncoordinated or mismanaged construction in the ROW. The resulting unnecessary or extended traffic delays could affect traffic-related costs for residents and businesses. Accidents in the ROW that interrupt infrastructure services could also negatively affect companies that occupy space in the ROW.

From an economic standpoint, the question is really not whether someone will pay for the rights-of-way, but who will pay: the providers who are using the asset, or the taxpayers. The latter will occur if the FCC takes any action which prevents localities from recovering less than the value of the right-of-way.

Given the prospect of no measurable benefits to BB penetration or adoption from limiting or abolishing ROW fees, but the prospect of harm to BB consumers, residents, businesses, telecom providers and other users of the ROW, it is difficult to find an economic justification for regulating local rights of way charges or practices.

APPENDIX A: VITAE

Bryce Ward, Senior Economist

Years of Experience: 10 years

Firm: ECONorthwest

Education: Ph.D Economics, Harvard University
B.A. Economics and History, University of Oregon

Bryce Ward joined ECONorthwest in 2005. His areas of expertise include econometric analysis and applied microeconomics -- including urban and regional economics, labor economics, public finance, and environmental and natural resource economics. Dr. Ward has applied his expertise to a variety of projects involving litigation support and policy analysis. He has provided oral and written testimony in over a dozen court, legislative, or administrative proceedings.

Right-of-Way

- Provided oral and written testimony regarding economic issues related to municipal right-of-way fees in New Orleans.
- Provided written testimony to the FCC regarding the economic aspects of allowing local governments to charge telecommunications providers for access to government-owned or managed property
- Addressed the economic issues of telecommunications firms' challenge, under the Telecommunications Act of 1996, to the City of Portland's franchise-fee agreements for use of the municipal right-of-way

Anti-Trust/Competition

- Testified regarding the economic aspects of alleged anticompetitive behavior in a market for outpatient diagnostic imaging services
- Analyzed the economic issues of class certification and damage calculations related to alleged antitrust violations in the market for residential lots
- Analyzed the market for MRI services in the Boise and Portland and assessed alleged anticompetitive behavior in this market
- Provided written testimony regarding the presence of competition in a market for private prisons and the likelihood of substantial competitive harm to private prison operators from a Freedom of Information Act (FOIA) request

Real Estate

- For attorneys representing the proposed class of plaintiffs, provided oral and written testimony on the economic aspects and harm, if any, to plaintiffs, from an alleged scheme that inflated the appraised market value of real estate

- For attorneys representing the proposed class of plaintiffs, provided written testimony on the economic aspects and harm, if any, to plaintiffs, from an alleged scheme that inflated mortgage costs without proper disclosure

- Described the impact of a pipeline rupture and related oil spill on residential property values

- Analyzed the effect of Portland's Intertwine (a network of open spaces) on property values in the Portland, OR Metro area using a hedonic regression analysis and data from county assessors' records

- Analyzed the effect of Seattle's Natural Drainage (low impact development) Projects on neighboring property values (4505) using a hedonic regression analysis and data from county assessors' records

- Analysis of the Effect of Regulations on Housing Prices in Greater Boston

- Assisted Harvard Professor Edward L. Glaeser in preparing a report for Harvard's Rappaport Institute for Greater Boston and the Pioneer Public Policy Institute that estimated the effect of local regulations on housing supply and housing prices

- Analysis of Neighborhood Price Dynamics

- Assisted Harvard Professor Edward L. Glaeser on a paper detailing the sources of housing-price cycles at the neighborhood level

Labor

- Organized data and conducted statistical analysis to evaluate claims of discrimination in employer discrimination lawsuits

- Calculated economic damages and testified in wrongful termination lawsuits

- Developed an analytical framework, gathered data, and conducted analyses of current market conditions for workers in comparable jobs and comparable communities as precursor to public-interest arbitrations involving transit districts

- Described the potential impact of the financial crisis, recession, and potential deflation on public interest arbitration

- Testified about the reasons and methods for adjusting wages for changes in the cost of living based on the Consumer Price Index (CPI) and the long-term consequences of not adjusting wages during periods of deflation

- Developed a short-term economic outlook for a regional economy in preparation to labor bargaining

- Analyzed historical wage and benefit growth for sheriff deputies relative to other public and private sector employees in preparation for labor bargaining

- Provided written testimony on the economic effects associated with increasing fees for Columbia River Bar Pilots

- Analyzed firm losses resulting from former employees' breaches of restrictive employment-contract covenants regarding future employment with a competitor

- Analysis of the Long-Term Labor Market and Family Outcomes of Harvard Undergraduates

- Calculated potential economic costs associated with proposed change in Oregon's meal and rest break rule

Environment/Natural Resources

- Described the impact of a change in harvest allocations on the economic health and stability of the commercial Dungeness crab industry in Puget Sound (WA)

- Calculated natural resource damages associated with a Superfund site using a Habitat Equivalency Analysis (HEA)

- Calculated lost profits to an oyster farm from chemical contamination

- Described potential economic damages suffered by municipalities as a result of oil spills

- Evaluated the potential economic effects of the U.S. Department of Agriculture and California Department of Food and Agriculture's proposed eradication of the Light Brown Apple Moth

- Calculated profit disgorgement based on emission violations

- Evaluated a contingent valuation study of a proposed wind farm

- Reviewed and evaluated the economic components of a feasibility study and preferred clean-up remedy for a contaminated site

- Evaluated the U.S. Environmental Protection Agency's draft report on groundwater and soil remediation scenarios for a creosote-contaminated Superfund site

- Assisted in an analysis that compared and contrasted benefits and costs, stemming from the use in California of MTBE-oxygenated gasoline with those stemming from the use of ethanol-oxygenated gasoline to determine if refiners could have used ethanol to meet federal reformulated gasoline mandates instead of MTBE during the 1990s

Personal Injury/Wrongful Death

- Calculated economic damages in wrongful death lawsuits

- Calculated lost wages and presented expert testimony in personal injury cases

Public Policy

- Evaluated the effects of tax differences between Oregon and Washington on migration patterns in the Portland metro area
- Described the likely impact of a proposed tax increase on state taxable income and economic growth
- Evaluated the effect of enterprise zone tax incentives on economic development using a regression analysis of longitudinal establishment-level data
- Developed a model and analyzed data to estimate gross revenues for video, voice, and data services at the city level for the League of Oregon Cities
- Described the growth in the market for third-party certified forest products and discussed the reasons why firms choose to pursue certification.
- Reviewed and evaluated current research on the impact of increased hospital supply on local health care markets
- Provided data collection services to determine garbage and yard debris can weights and set-out rates for Eugene residents

Education

- Designed and implemented a randomized evaluation that employed longitudinal student and school data to demonstrate the effects of Safe and Civil Schools' positive behavior support programs on elementary schools in the Fresno Unified School District
- Developed a method for using longitudinal student data to calculate and report student achievement growth (aka a school value-added-model (VAM)) as part of a school accountability program in Seattle, Washington
- Evaluated the effectiveness of the South Shore School (a public-private partnership school in Seattle, Washington) using a quasi-experimental regression analysis and longitudinal student data
- Evaluated the effectiveness of ASPIRE (a program to increased college enrollment among Oregon high school students) using a regression analysis and longitudinal student data that matched student K-12 records with college enrollment data
- Developed a district report card system for several Oregon school districts
- Evaluated the effectiveness of Pre-K and K programs in Bremerton, Washington using a regression analysis on longitudinal student data
- Testified before Oregon legislature regarding methods for funding school transportation systems

- Developed regression models to calculate funding levels for student transportation in Washington school districts and developed linear programming tools to evaluate the efficiency of district transportation spending

- Analyzed and presented results of a survey regarding methods for improving efficiency in Oregon schools

- Reviewed literature on motivations for and effects of mergers between institutions of higher education

- Reviewed and evaluated current research on using student test scores to assess school performance for Seattle Public Schools

- Described the Hispanic-White and Black-White achievement gaps in Oregon schools

- Estimated the economic effects of achievement gaps on Oregon's economy

- Reviewed and evaluated current research on the effectiveness of the Safe and Civil Schools program, and worked with clients to develop and implement additional program evaluation

Other

- Testified before the Oregon legislature regarding proposed legislation before the Oregon House that amends ORCP 32 by repealing subsection K and, therefore allowing recovery of UTPA statutory damages (currently $200) in class actions

- Calculated non-economic damages to a father denied access to his child for 17 years

- Calculated reimbursements to families who adopted foster children as part of a class action settlement

- Calculated damages suffered by an auto dealership and service department stemming from the violation of non-solicitation and non-compete clauses in an asset purchase agreement

- Reviewed and conducted analyses in order to determine specialty forest product harvesters are compelled to sell to a shed the brush they picked under the permit that shed issued them

- Analyzed the impacts of Measure 37 (property rights limitation) on the State of Oregon

- Provided testimony on the consequences to the healthcare markets in Portland of allowing a new hospital

- Estimated share of LCD TVs, LCD computer monitors, and notebook computer monitors were purchased by Oregon consumers and state and local governments as part of a price fixing lawsuit

Publications

"The Causes and Consequences of Land Use Regulation: Evidence from Greater Boston" *Journal of Urban Economics* 65(3): 265-278 Glaeser, E., and B Ward.

"The Effect of Low Impact Development on Property Values" *Proceedings of the Water Environment Federation, Sustainability 2008* , pp. 318-323 Ward, B., E. MacMullan, and S. Reich.

"Myths and Realities of American Political Geography." *Journal of Economic Perspectives*. Glaeser, E., and B. Ward. Spring 2006.

Regulation and the Rise of Housing Prices in Greater Boston. Glaeser, E., J. Schuetz, and B. Ward. Cambridge, MA: Rappaport Institute for Greater Boston, Harvard University, and Pioneer Institute for Public Policy Research. 2006.

"Distance and Social Capital: Can Isolation Be Good?," in *Social Interactions and Economics*, Ph.D Dissertation, Harvard University, March 2006.

"Does Reunion Attendance Affect Alumni Contributions?: Evidence from the Harvard College Classes of 1990-1999," in *Social Interactions and Economics*, Ph.D Dissertation, Harvard University, March 2006.

"Economic Bridges Falling Down." *Eugene Weekly*. Ward, B. and E. Whitelaw. October 8, 2008.

"The Economy: Now What? The Economists: Ward and Whitelaw" *Oregonian*, Ward B. and E. Whitelaw. September 20, 2008.

"Dream On." *Oregon Quarterly*. Ward, B. and E. Whitelaw. Winter 2007.

"Still the Land of Opportunity?" *Oregonian*. Tapogna, T., B. Ward, and E. Whitelaw. March 2006.

"The Price Is (Not) Right." Commonwealth: Growth and Development Extra. Glaeser, E., J. Schuetz, and B. Ward. January 2006.

Recent Speeches and Presentations

"Benefits and Costs of Seismic Mitigation" CREW Benefit-Cost Analysis Forum, January 2011.

"Does Low-Impact Development Affect Property Values?: Evidence from Seattle's Natural Drainage System Projects." Water Environment Foundation Sustainability 2008 Conference., June 2008.

"Compensation for ROW Access Under the Telecommunications Act of 1996: Fiscal Issues Related to Communications Services." NATOA 27th Annual Conference. Sponsored by the National Association of Telecommunications Officers and Advisors. Portland, Oregon. October 2007.

"Outside the Light: The real factors driving Eugene/Springfield's Economy." Eugene-Springfield Leadership Program. Sponsored by the Eugene Area Chamber of Commerce. Eugene, Oregon. October 2006.

"Deregulating the Housing Market." Preserving the American Dream Conference. Sponsored by the American Dream Coalition. Atlanta, Georgia. September 2006.

Teaching

Visiting Adjunct Instructor, Portland State University; Courses: Global Environmental Economics, Spring 2010.

Visiting Assistant Professor, Lewis and Clark College; Courses: Intermediate Microeconomic Theory, Econometrics, Public Economics, Environmental and Natural Resource Economics, Spring 2008 & Fall 2009.

Visiting Adjunct Instructor, University of Oregon; Courses: Labor Economics, Spring 2009.

Tutorial Leader, Harvard College; Courses: Everybody's Doin' It: Social Interactions and Economics, 2002-2006, Senior Thesis Tutorial: Labor, 2004-05.

Teaching Fellow, Harvard University; Courses: Intermediate Microeconomic Theory, Intermediate Macroeconomic Theory, Microeconomics: A Policy Tool for Educators, 2001-2003.

Teaching Assistant, University of Oregon; Courses: Principals of Microeconomics, Urban Economics, Economy of the Pacific Northwest, 1998-1999.

Edward MacMullan, Senior Economist

Years of Experience: 22 years

Firm: ECONorthwest

Education: M.S. Agricultural Economics and International Agricultural Development, University of California at Davis
B.S. Soil Science, Oregon State University

Edward MacMullan has been a senior economist with ECONorthwest since 1990. His areas of experience include assessing the economic effects of public policies, especially those that affect natural-resource management, and economic aspects of antitrust, intellectual property, right-of-way, telecommunication and healthcare topics. Before joining ECONorthwest he studied as a Fulbright Scholar at the Energy Studies Unit of the University of Strathclyde where he assessed the socioeconomic impacts of energy development projects in the highlands and islands of Scotland.

Right-of-Way Studies

- Conducted a valuation of a right-of-way occupied by a discharge pipeline from the Georgia Pacific facility in Toledo for the City of Newport.
- Submitted an affidavit in support of the fee that the City charges to access the municipal right-of-way.
- Analyzed the economic issues of telecommunications firms' challenge, under the Telecommunications Act of 1996, regarding Portland's franchise-fee agreements for right-of-way use, City of Portland.
- Evaluated the fees that a city in California charged a telecommunications company to access the city-owned right-of-way, private client.
- Reviewed economic issues specific to the Telecommunications Act of 1996 regarding the fees charged to telecommunications firms for right-of-way, City of Huntsville, Alabama.
- Evaluated right-of-way fees that were challenged by a telecommunications company under the Telecommunications Act of 1996, City of Tucson, Arizona.
- Provided economic analysis regarding the economic value of municipal rights-of-way and use of the rights-of-way by a telecommunications company, City of Portland, Oregon.
- Analyzed the economic damages from trespass outside a right-of-way in a New Mexico Pueblo during the construction of a petroleum production pipeline, Kelly, Haglund, Garnsey & Kahn.

Antitrust Economics

- Assessed potential anti-trust behavior in the market for acute care and tertiary medical services.
- Assessed economic aspects of alleged patent infringement of computer toolbar technology.

- For the plaintiffs, assessed economic damages to patent holders of alleged patent infringement in the power equipment market.
- Addressed the economic issues of class certification and damage calculations related to alleged antitrust violations in the market for residential lots.
- Studied the market for MRI services in the Boise area and assessed alleged anticompetitive behavior in this market.
- Analyzed claims of misappropriation of trade secrets, intentional interference with economic relations, and breach of contract, Schwabe, Williamson & Wyatt.
- Analyzed the market for diagnostic-imaging services in the Portland metropolitan area, Haglund, Kirtley, Kelley & Horngren.
- Calculated the economic impacts of alleged price fixing in the market for agricultural commodities, Tonkon, Torp, Galen, Marmaduke & Booth.
- Provided economic consultation in preparation for litigation regarding workers' compensation insurance, private client.
- Assessed the economic consequences of price discrimination and other antitrust behavior in the wholesale market for petroleum products in Cordova, Alaska, Condon Shoup.

Microeconomic Analysis

- For attorneys representing plaintiffs in a class action lawsuit, performed an analysis of the economic aspects of alleged violations by mortgage brokers of consumer truth-in-lending practices.
- For attorneys representing plaintiffs in a class action lawsuit, assessed the economic aspects of alleged inflated home appraisals.
- Determined the appropriate sample size required to confirm key characteristics about a phone pole population.
- Conducted an economic evaluation of a property at issue in a claim against a state.
- Provided economic analysis regarding litigation over a city's method of collecting user fees for stormwater services.
- Evaluated the financial feasibility of a proposed destination resort in Central Oregon on the Gould and Cline Buttes.
- Calculated the plaintiff's lost profits and reasonable royalty in a patent infringement case, Schwabe, Williamson & Wyatt.
- Studied the factors that determine the market price for grass seed grown in Oregon, private client.
- Determined a royalty rate as compensation for economic damages in a breach of contract lawsuit, Schwabe, Williamson & Wyatt.
- Provided economic analysis of a patent infringement claim regarding suspension systems for bicycles, Schwabe, Williamson & Wyatt.
- Analyzed the national market for cookware items and the financial performance of firms that participate in the market, Schwabe, Williamson & Wyatt.

- Evaluated the market for professional manuals used by attorneys and legal assistants in Oregon, private client.
- Calculated the economic impacts associated with a proposed petroleum-products pipeline across Texas, George & Donaldson.
- Assessed the economic effects associated with a proposed petroleum-products pipeline in Washington state, Schwabe, Williamson & Wyatt.
- Determined the economic consequences of a breach of contract associated with a computer software program, Moore & Orr.
- Calculated uncompensated expenses and lost profits associated with a contract dispute between a manufacturer of video lottery terminals and the Oregon State Lottery, Davis Wright Tremaine.
- Analyzed lost profits from various patent infringement cases, Kolisch, Hartwell, Dickinson, McCormack, & Heuser.

Economic and Socioeconomic Impact Analysis

- Reviewed the market for workers' compensation insurance in Oregon.
- Assessed the financial implications of switching from franchise fees to a gross-revenue tax on telecom services provided in the municipalities.
- Conducted an economic benefit-cost comparison of a conventional roof and a greenroof on a commercial building, for the City of Portland.
- Assessed the impacts of greenstreets in the Puget Sound on property values for adjacent properties.
- Analyzed the operations and financial performance of a timber company's cogeneration facilities and determined the profits earned by the company as a result of unfair competition stemming from violations of air-quality regulations.
- Described the economic aspects of zoning incentives to protect natural resources, City of Corvallis, Oregon.
- Conducted a market analysis for industrial products in regional and world markets, private client.
- Evaluated the socioeconomic impacts of hospitals on rural economies, Mercy Medical Center.
- Conducted a cost-benefit analysis of energy efficiency and renewable energy resources, Alaska Coalition.
- Calculated the economic impacts of restricting snowmobiles from several national parks, The Wilderness Society.
- Analyzed the potential economic impacts of designating a national monument on land currently managed by the Siskiyou National Forest and Bureau of Land Management, Siskiyou Educational Project.
- Reviewed an economic impact assessment of a submarine cable and terminus at San Luis Obispo, California, North State Resources.

- Assessed the socioeconomic impacts of the proposed Pelican Butte ski area, Winema National Forest.
- Evaluated the economic consequences of new restrictions on Alaska's fishing industry, Earth Justice.
- Analyzed the Interior Columbia River Basin Ecosystem Management Project to ensure it internalized the externalities of resource-extraction industries on federal lands in eastern Washington, eastern Oregon, and Idaho, W. Alton Jones Foundation.

Economics of Health Care

- Evaluated how the approval of a hospital's Certificate-of-Need application would influence market concentration, Thorp Purdy Jewett Urness & Wilkinson.
- Studied economic aspects of defining a hospital's service area as it applied to Oregon's Certificate-of-Need requirement for new or relocated hospitals, Thorp Purdy Jewett Urness & Wilkinson.
- Identified the relevant markets for hospital services and evaluated the extent to which hospitals exercised market power over insurance firms and competing hospitals, Schwabe, Williamson & Wyatt.
- Studied the market for home intravenous care in preparation for a possible antitrust lawsuit, Watkinson Laird Rubenstein Lashway & Baldwin.
- Provided economic consultation on the market for healthcare services in Southern Oregon, Schwabe, Williamson & Wyatt.
- Evaluated damage claims, researched prices for hospital services, and provided advice on the distinction between fixed and variable costs, Schwabe, Williamson & Wyatt.
- Calculated lifetime medical expenses and lost wages as part of various personal injury and wrongful death lawsuits, private clients.
- Assessed the economic impacts of a breach of contract associated with a medical diagnostic technique, Stoel Rives.
- Quantified the net present value of lifetime medical services associated with a medical malpractice suit, private client.
- Evaluated the growth and discount rates of life care plans, Calkins & Calkins.

Public Policy and Government Regulations

- Calculated the economic damages to a seafood-related business as a result of a license dispute with the State of Washington, private client.
- Studied the economic performance of the ski industry in the Lake Tahoe area, the market conditions that affect this sector of the region's economy, and the economic factors associated with avoiding and complying with regional water quality regulations and county permitting processes, California Attorney General's Office.
- Provided economic analysis regarding a contract dispute between the City of Eugene, Oregon and a tenant leasing city-owned property, Harrang Long.

- Calculated tobacco company profits associated with the consumption of cigarettes by under-age smokers, Attorneys General of Washington, Arizona, and Connecticut.

Labor and Welfare Economics

- Calculated the economic loss resulting from the employment termination of a 56-year-old male, private client.
- Quantified the economic loss to a regional bank associated with breach of contract by former employees, Arnold Gallagher Saydack Percell.
- Provided economic analysis for wage arbitration with municipal employees, City of Coos Bay, Oregon.

Analysis of Economic Damages to Natural Resources

- Assessed a construction company's ability to pay civil penalties associated with alleged violations of air-quality regulations.
- Described the economic value of water resources in California.
- Assessed the economic impacts on an oyster grower of the oil spilled from the grounding of the New Carissa, Davis Wright Tremaine.
- Conducted an economic analysis of the damages stemming from the Wheeler Point fire in central Oregon, Kafoury & McDougal.
- Calculated the economic impacts of the Exxon Valdez oil spill on Alaskan salmon fishermen, municipal governments, area businesses, and cannery workers, Stoll, Stoll, Berne, Lokting, Shlachter.
- Evaluated damage claims by area businesses and property owners affected by a pesticide spill in the Sacramento River, Lieff, Cabraser & Heimann.
- Assessed the economic consequences of a chemical spill on the municipality of Superior, Wisconsin, private client.
- Determined the economic impacts on area businesses of an oil spill off Huntington Beach, California, Law Offices of Gretchen Nelson.
- Evaluated the demand for recreational fishing in the Flathead Lake area of Montana, Montana Attorney General's Office.

Water Resources

- Developed an economic model to determine the economic benefits of riparian-restoration projects for Clean Water Services.
- Co-instructed a seminar at Portland State, "USP 505 Evaluating Low Impact Development (LID)," that focuses in part on the economic costs and benefits of managing stormwater by LID and conventional controls.
- Calculated the value of ecosystem services that could be degraded by stormwater runoff from expanded urban and commercial developments in the East Butte area of Portland for the City of Portland.

- Assisted the City of Portland staff in developing an approach to study the economic benefits and costs of alternative stormwater-management techniques in support of the City's Watershed Plan.
- Conducted a review of the literature on the economics of Low Impact Development for Waterkeeper Alliance.
- Analyzed the range of economic costs and benefits of projects and policy options affecting water quality and quantity in a Portland, Oregon watershed that drains to the Willamette River, City of Portland.
- Described the economic tradeoffs of allowing, limiting, or prohibiting development in significant riparian areas and wildlife habitat in the Portland metropolitan area, Metro.
- Developed a handbook on the economic factors associated with relicensing a hydroelectric dam, Hydropower Reform Coalition.
- Developed an economic model to determine the net economic benefits of riparian-restoration projects in Oregon, Clean Water Services.
- Reviewed the U.S. Army Corps of Engineers' Final Environmental Impact Statement on deepening the shipping channel in the Columbia and Willamette Rivers, private client.
- Studied the economic issues associated with water management services and the economic implications associated with the federal Endangered Species Act and Clean Water Act, Clean Water Services.
- Evaluated the economic impacts of bypassing four federal dams on the Lower Snake River and developed a plan to mitigate the negative consequences of the bypass, Trout Unlimited and Earthjustice.
- Determined the direct and indirect economic impacts of economic development projects in the Columbia River Gorge funded by the National Scenic Area Act, Columbia River Gorge Commission.
- Evaluated the potential impacts of a proposed gold mine in Montana's Blackfoot River watershed on employment and quality of life, Blackfoot Legacy.
- Assessed the economic consequences of modifying hydroelectric dams to protect and enhance riparian habitat, private client.
- Prepared a response to the Draft Environmental Impact Statement for the Columbia River System Operation Review, Confederated Tribes of the Umatilla Indian Reservation.
- Assessed the economic consequences of alternative strategies for managing the Columbia River and its tributaries, Northwest Water Law and Policy Project.

Endangered Fish and Wildlife

- Described the economic effects of designating critical habitat for two endangered species of fish in the Klamath Basin of Oregon and California, U.S. Fish and Wildlife Service.
- Critiqued a draft report on the potential economic consequences of designating critical habitat for the Steller's and spectacled eiders, private client.
- Evaluated the potential economic impacts of restricting Alaska's groundfishery in critical habitat for the endangered Steller sea lion, private client.

- Analyzed the economic consequences of designating critical habitat in California, Oregon, and Washington for the marbled murrelet, U.S. Fish and Wildlife Service.
- Assessed the economic effects of an injunction to protect salmon habitat on the Wallowa-Whitman and Umatilla National Forests, private client.

Forest Resources

- Prepared a critique of the U.S. Forest Service's estimated demand for timber from the Tongass National Forest, Alaska Rainforest Campaign.
- Analyzed the economic consequences on southeast Alaska's economy of reduced timber harvest in the Tongass National Forest, Sierra Club Legal Defense Fund and the Alaska Rainforest Campaign.
- Studied the relationships between forested ecosystems and regional economies in Oregon, Alaska, North Carolina, New Hampshire, New Mexico, and Wisconsin, National Science Foundation.
- Evaluated the opportunities and threats facing timber-dependent communities affected by logging restrictions on federal land in Washington state, Washington Community Development Department.

Recent Presentations

- "Low-Impact Development Economics." October 22, 2008. NEMO University-6.
- "The Economics of Low-Impact Development." NY/NJ Baykeeper 2008 Low Impact Development Conference. January 23, 2008. New York City, New York.
- "Assessing Low-Impact Development Using a Benefit-Cost Approach." California Stormwater Quality Association (CASQA) 3rd Annual Stormwater Conference. September 11, 2007. Costa Mesa, California.
- "Valuing Ecosystem Services in Portland, Oregon: A Case Study." Emerging Issues Along Urban/Rural Interfaces II Conference. April 9-12, 2007. Atlanta, Georgia.
- "Assessing Low Impact Developments Using a Benefit-Cost Approach." 2nd National Low Impact Development Conference. March 12-14, 2007. Wilmington, North Carolina.

Publications

"Low-Impact Stormwater Controls Can Increase the Bottom Line." *Home Building News.* August 2008.

The Economics of Low-Impact Development: A Literature Review. Waterkeeper Alliance. With S. Reich. November 2007.

"Cities Challenged in Their Economic Interpretation of the Telecommunications Act of 1996." *Municipal Lawyer*. With E. Whitelaw and A. Pearce. September/October 2006.

"A Framework for Estimating the Costs and Benefits of Dam Removal." *BioScience* 52 (8). With E. Whitelaw. August 2002.

The Economic Benefits of Renewable Energy and Cost-Effective Energy Efficiency. Alaska Coalition. With E. Niemi and A. Fifield. September 2001.

An Economic Strategy for the Lower Snake River. Trout Unlimited. With E. Whitelaw. November 1999.

The Potential Economic Consequences of Designating Critical Habitat for the Marbled Murrelet: Final Report. U.S. Fish and Wildlife Service, Portland Field Office. With E. Niemi, E. Whitelaw, and D. Taylor. 1996.

The Potential Economic Consequences of Critical Habitat Designation for the Lost River Sucker and the Shortnose Sucker: Final Report. U.S. Fish and Wildlife Service, Portland Field Office. With E. Niemi and E. Whitelaw. August 1995.

Economic Consequences of Management Strategies for the Columbia and Snake Rivers. Confederated Tribes of the Umatilla Indian Reservation. With E. Niemi and E. Whitelaw. July 1995.

Economic Consequences of an Injunction to Protect Salmon Habitat on the Wallowa-Whitman and Umatilla National Forests: Preliminary Report. With E. Niemi and E. Whitelaw. 1995.

The Columbia River and the Economy of the Pacific Northwest. With E. Niemi, E. Whitelaw, and A. Gorr. May 1995.

The Potential Economic Consequences of a Reduction in Timber Supply from the Tongass National Forest. With E. Whitelaw. December 1994.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of Acceleration of Broadband Deployment Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting	WC Docket No. 11-59

DECLARATION OF MURVYN MOREHEAD

I, Murvyn Morehead, declare as follows:

1. I am the Right-of-Way Coordinator for the City of Overland Park, Kansas, the second largest city in Kansas. I have 24 years of experience in public works, including 11 years specifically working on rights-of-way issues. Through this experience, I have gained considerable knowledge of local rights-of-way, and of the important practices that local governments use to manage these rights-of-way. Based on this experience, I can also address what impact regulation by the Federal Communications Commission ("FCC") could have on these local practices.

2. I am also a member of the American Public Works Association ("APWA") Utilities and Public Rights-of-Way Committee, and a chairman of the Construction Practices subcommittee. I have worked to educate APWA members nationwide about damage prevention and best practices, including the use of trenchless technologies such as Horizontal Directional Drilling ("HDD").

3. In my experience, local management of the rights-of-way is of critical importance for a number of reasons.

4. The rights-of-way are used by many competing entities other than broadband providers. For example, in Overland Park, Johnson County Wastewater, WaterOne, Kansas Gas Services, and Southern Star Gas are some of the other right-of-way users. Further, the City spends millions of dollars acquiring right-of-way for City purposes such as new or wider streets, sidewalks, and stormwater and drainage facilities. Local officials must manage the right-of-way for the benefit of all right-of-way users, not just broadband providers. Without this local management and without taking into account all of the needs of the right-of-way, serious problems can ensue.

5. The rights-of-way are a limited resource. Because of this, if rights-of-way are not managed properly, they will not be sustainable over time. I have spoken to APWA members about how a right-of-way that is not property managed (such as in the picture below) will make future deployments very difficult.

6. The rights-of-way are neither standardized nor a blank slate. Federal regulators might draw up ideal models about where and how right-of-way placements should be made. But such standardized models do not match the real world. Rights-of-way have unique histories based on facility placement dating back more than a half century. In addition, each community will have areas that present particular permitting issues: areas where the streets are already filled to capacity; areas where there may be structural problems with the infrastructure or unique elements to it (cobble or brick v. pavement, for example); and areas where competing demands (light rail, underground installations) make placement challenging. There may be areas where construction is planned (so that placement of utilities needs to be coordinated) or areas where construction must be prohibited (recently completed reconstructions where cuts may significantly harm pavement life). That is, permitting varies based on a number of factors and requires significant flexibility, which must be exercised within the context of local budgetary constraints. Where construction is active, there may be a more substantial permitting staff, and more detailed permitting rules; in some areas, where there is not much construction, there is virtually no staff and no requirements. Local officials are uniquely positioned to understand the history of the rights-of-way in their community, and to plan deployment based on these facts.

7. Based on my experience locally and with APWA on a national level, the local right-of-way management process generally works smoothly. When there are delays, it is often because applicants submit applications that are incomplete, that could cause disruptions, or that are incompatible with existing facilities in the rights-of-way. This often requires local staff to work with these applicants. For this reason, imposing any "shot clock" on local governments would be problematic. It could force local governments to grant permits based on incomplete information or where the work could be disruptive or dangerous. It could also change what is now a cooperative relationship into one that would depend on the FCC's choices. It would reduce or eliminate an applicant's incentive to work with cities to find an agreeable solution that addresses everyone's concerns. This would necessarily turn every permit request into a potential legal issue, and likely create a far more bureaucratic and expensive process than exists today.

8. The federal government need not mandate standards in this area. For example, a Kansas statute already requires cities to treat broadband providers equitably and to only impose reasonable right-of-way regulations. *See* K.S.A. 17-1902. The City takes this responsibility very seriously, and its right-of-way regulations have been carefully reviewed to make sure that they comply with this requirement.

9. In many communities, right-of-way practices are coordinated with a variety of utilities including (if the utilities are willing to participate) telecommunications utilities. Different utilities have different concerns, so a permitting policy based on the views of

telecommunications companies might not meet the requirements of gas companies. A set of FCC rules that takes into account the interests of only one industry could have significant adverse effects on economic growth and development, which depends on coordination *among* users.

10. Communities often attempt to coordinate right-of-way practices. For example, when Overland Park adopted its right-of-way ordinance, it coordinated the effort with a number of surrounding jurisdictions that also adopted the same ordinance. During this process, the cities held numerous meetings with utilities and other service providers in order to receive comments, to address everyone's concerns, and to generate an acceptable and equitable practice. This ordinance has been in place since 1999, and it has been working in an efficient manner for all parties and without any complaints. But, based on my experience, this model may not be appropriate for every community. In more rural communities where there are fewer rights-of-way uses, for example, all of these processes may not be necessary. In more urban communities, additional or different processes might be necessary. Other communities may have different practices because they are sensitive to particular forms of disruption based on past experience or local circumstances. Local officials are best-positioned to determine what requirements are appropriate. Within the APWA, for example, we recognize this point by discussing "best practices," but making it clear that those practices may not be appropriate in all cases.

11. Based on the unique features of the rights-of-way, a federal agency such as the FCC is ill-suited to manage local right-of-way use or to regulate local right-of-way practices. In addition, unlike local governments, the FCC is not positioned to respond to consumer complaints, to impose stop work orders for public safety reasons, or to consider and evaluate local impacts before they occur.

12. The FCC should approach even educational efforts cautiously. For example, I understand that the FCC is considering adopting a web-based application that local governments could use to coordinate excavations by providing notifications of new infrastructure projects. This application could be useful, but only if: (a) it were developed in conjunction with local authorities, (b) it does not impose unnecessary costs on local governments, and (c) it does not discourage and override existing initiatives. Many cities like Overland Park already coordinate deployment by releasing capital improvement plans that notify providers of new projects in advance, usually several years in advance where that is practical. The City further conducts preconstruction meetings and distributes plans to all utilities and service providers well in advance of the project in order to allow the utilities/providers to coordinate efforts and to identify construction conflicts.

13. One problem with many "one dig" policies, as proposed by the FCC, is that rights-of-way users often resist or ignore these policies. In fact, a proposed "one dig" policy was eliminated from an early draft of the City's Right-of-Way Ordinance because the telecommunications and broadband providers were adamantly opposed to it. In some

cases, companies are notified of an excavation and encouraged to deploy; refuse to do so; and then—a short time later—request a re-opening of the same street. Local governments could invest significant funds into an FCC-established application, only to find that it is rarely used. This is a significant risk at a time of limited local budgets. For example, the City of Lenexa, a neighboring city, has on occasion installed multiple conduits in conjunction with (re)building a road. The broadband/telecommunications providers were notified well in advance and asked to coordinate on the design so that the conduit facilities would meet their needs. Shortly after the conduit facilities were in place, at&t, the local incumbent (LEC), refused to go into the conduit and wanted to open a trench on the other side of the street because it did not want to locate near other broadband/telecom providers.

14. I also understand that the FCC has asked questions regarding microtrenching, and whether educational efforts are required. Local officials are willing to consider new technologies, and to modify local standards where that is appropriate. Microtrenching is a promising technology that may be beneficial in many areas. But microtrenching is not a cure-all, and it is not an appropriate technology for every project or every community. In Overland Park, for example, we have many green rights-of-way, which do not require installation in pavement at all. Mandating unnecessary pavement cuts would be highly problematic. In addition, for many projects, this trenching is often only one element of a larger project: applicants must also place junction boxes and other equipment at regular intervals. Finally, because microtrenching is a recent development, its impact on the long-term street deterioration is not yet fully

understood. Through intelligent local planning, local officials can (and do) allow for some microtrenching on a trial basis. But this is another area where dictating use of the technology could create new problems, and new liabilities for local governments, and for other utilities that also have critical facilities in the rights-of-way. The FCC also needs to also be aware that other technologies and practices offer similar or better alternatives. For example, several broadband providers in the area currently use horizontal directional drilling ("HDD") in a successful and efficient manner. While microtrenching might be appropriate in some instances, other situations might require HDD or another approach. These types of decisions are handled best locally.

15. Moreover, the FCC's effort to try to gain right-of-way experience through noticed, federal proceedings is unlikely to be effective. Many communities simply do not have the funds to participate in a series of ongoing proceedings, where it is not clear what will result, and where there are not long-term funding support commitments. Based on my experience with the permitting community, it would be far preferable for the FCC to use an intergovernmental body that could help the FCC identify the best ways in which resources can be used. Such intergovernmental body is more likely to have a "boots on the ground" approach that puts it in a better position than the FCC to coordinate and streamline right-of-way management and best practices.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief, and that this declaration was executed on July 14, 2011, at Overland Park, Kansas.

Murvyn Morehead

Murvyn Morehead

TeleCommUnity
... Alliance for a Communications Bill of Rights

VALUATION OF THE PUBLIC RIGHTS-OF-WAY ASSET

I. Introduction

The value of the rights-of-way held in trust by state and local government is the sum of the value of the real estate plus the value of the capital improvements, which make rights-of-way useful and usable. There are numerous appraisal methods to identify this value: Book Value; Replacement Value; Willing Buyer/Willing Seller Value; Income-Based Method and a Comparable Transactions Valuation.[1] This paper employs the book value and comparable transaction valuation methods. These and the other valuation methods substantiate that state and local governments hold, and are responsible for, one of the most important and valuable assets in the United States economy. Managing this asset in trust on behalf of the nation's taxpayers is a central responsibility of state and local elected officials.

II Establishing the Size of the National Rights-of-Way Inventory.

(625,517,587,200 square feet)

The Federal Highway Administration of the U.S. Department of Transportation estimates there are 3,917,232 linear miles of roads in the United States.[2] State and local governments are responsible for the acquisition, construction and maintenance 78% of this total inventory.[3] This paper uses an average width estimate of 40 feet.[4]

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[1] See *Fair Market Value Analysis For a Fiber Optic Cable Permit in National Marine Sanctuaries*, National Oceanic and Atmospheric Administration (August 2001.) Assigning a value to the rights-of-way is not a case of first impression for federal, state or local government. Federal agencies such as the United States Department of Transportation, the U.S. Department of the Interior (Bureau of Land Management "BLM"), the United States Department of Agriculture (U.S. Forest Service) and the National Oceanic and Atmospheric Administration ("NOAA") have all been actively engaged in assessing value for rights-of-way for years. Valuation of rights-of-way, and the requirement that government receive fair market value for their use, can be found in regulations (43 C.F.R. Sections 2803 and 2883) statutes, and case law. A whole industry has developed to provide federal, state, and local governments, as well as individual land-owners, with valuations of their rights-of-way. The public side of this industry can be found at the International Right of Way Association http://www.irwaonline.org/ and the American Public Works Association http://www.apwa.net. Private practitioners of evaluating and valuing rights-of-way may be found at the Appraisal Institute http://www.appraisalinstitute.org/.

[2] All highway number are drawn form the U.S. Department of Transportation's Highway Statistics 2000 study available at http://www.fhwa.dot.gov/ohim/hs00/index.htm

[3] The total 3,917,232 inventory includes 2,961,731 miles that are the sole responsibility of state and local governments. In addition, 160,161 miles belong to the Interstate System, and an additional 795,340 miles are state and local roads entitled to Federal funds. State and local governments pay ten percent of the acquisition, construction and maintenance of these roads. This analysis reflects this burden by adding ten percent of the federal roads (79,534 + 16,016) to the state and local mileage.

[4] 40-foot average width is a conservative number. A traffic lane must be a minimum of nine-feet wide. A 40-foot width provides a single lane of traffic, two lanes of parking, plus a six- foot sidewalk/ pedestrian way/utility right-of-way on each side of the street. Many streets and roads are much wider than a single traffic lane.

5,280 feet/centerline mile x 2,961,731 centerline miles x 40 feet width = 625,517,587,200 square feet of rights-of-way that are the sole responsibility of state and local government.

III. Establishing the Value of the Rights-of-Way Inventory

1. Net Book Value: ($4,676,039,947,040)

A. Value of Improvements: ($1,110,589,700,000)

The Bureau of Economic Analysis (BEA) states that the present value of the total capital expenditures on streets and highways is $1,423,833,000,000.[5] This is the depreciated capital cost borne by taxpayers to improve streets and highways. State and local taxpayers paid 78% or $1,110,589,700,000.[6]

B. Value of the Land.[7]($3,565,450,247,040.00)

There are several methods to establish an average value for each square foot of land in the rights-of-way. Land in the right of way has widely varying value. The "Across or At the Fence" value (ATF) is less than a penny per square foot for some western rural counties.[8] The ATF value exceeds $2,500 per square (in 1989 dollars) for downtown New York.[9] Between these extremes lies a national average.

The Minnesota Department of Transportation estimated in 1994 that the average ATF value of the land abutting the rights of way for the City of Minneapolis at $5.70/square foot.[10]

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[5] The Bureau of Economic Analysis of the Department of Commerce (the organization that estimates the Gross National Product numbers other leading economic indicators) has tracked government fixed assets for decades. Among those fixed assets is a category for roads and highways. *See* Department of Commerce's Bureau of Economic Analysis Fixed Asset Tables for 2002. These tables may be viewed at www.bea.doc.gov/bea/dn/faweb/FATableView.asp?SelectedTable=67&FirstYear=1995&LastYear=2000&Freq.

[6] This valuation understates the interest of state and local government in the rights-of-way. BEA staff, in interviews for this paper, suggested state and local jurisdictions are responsible for 100% of the ownership and maintenance of the nations streets and highways, regardless of whether the road is identified as a local, state or interstate highway.

[7] There exists no government research number for a national value of the land located in the right-of-way. This paper therefore employs the following formulae: [(Feet per mile) x (miles of no-federal roads)x (40 feet width)] x value of land per square foot.

[8] Not all western land, however, is that cheap. In 1994 Nevada Bell paid the federal government an annual fee of $1.05 per linear foot or $5,544 per mile for an easement. This followed a determination by the Bureau of Reclamation that the market price for the land ranged from 1,000 to $50,000 per mile. See page 25 of the National Ocean Service "Fair Market Value Analysis" of December 2000.

[9] *See Indirect Costs of Utility Placement and Repair Beneath the Streets*. A Report by Raymond L. Sterling , Ph.D., P.E. to the Minnesota Department of Transportation. (1994)

[10] The $5.70 is 1994 dollars. Adjusted for recent increases in property values in Minneapolis and other inflation, the value would be $9.00 per square foot in 2002 dollars. $9.00 per square foot appears to be a representative number based on two recent fiber optic easement class action lawsuits brought against railroads by abutting landowners. In *Vera J. Hinshaw et.al , v. AT&T Corp* (S.D. Ind, 2001) Civil Action No. IP99-0549-C-T/G) a Federal Court

This paper uses the Minnesota 1994 valuation of a mid-size, mid-western urban area as a conservative approximation of the nation-wide average.[11]

Multiplying the length x width x average value equals $3,565,450,247,040.00.[12]

C. Total Book Value ($4,676,039,947,040)

The total book value of the rights-of-way is the sum of the value of the land plus the value of the improvements, which equals $4,676,039,947,040.[13]

II. Comparable Transaction Valuation ($7.1 trillion to $10.9 trillion)

Comparable transaction valuation looks in the marketplace and uses sales and transfers of similar assets to establish a value for the property in question. As explained by NOAA, "Prices paid in actual market transactions provide direct data of fair market value."[14] NOAA cautions that "a wide variety of conditions and prices can create difficulties in finding the right comparison. A verifiable set of comparable sales must be viewed as a tool for identifying market trends and a basis for establishing a range of possible appraisal values."[15]

Employing this traditional method for assessing real estate values faces specific difficulties that must be accommodated when used to assess rights-of-way value:

- **Proprietary Information**: As the U.S. Department of Transportation learned in its study *Shared Resources: Sharing Right-Of-Way for Telecommunications* (FHWA-JPO-96-0015, April 1996): "Although access to rights-of-way is leased and prices are recorded in various contracts, these values may not be generally available because they are considered proprietary."
- **Dramatic Increases in Value**: The explosive growth of telecommunications sector has resulted in an exponential growth in rights-of-way value. In its report, NOAA stated, "For…rights of way greater than 5 miles in length, price levels rose from $8,026 per mile in 1987 to $11,880 per mile in 1993 to $100,042 in 1997." *See* NOAA report at p. 18.

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accepted $10 per square foot for the class action settlement. A copy of the agreement may be found at http://att.fsiwebs.net/settlements/IN_docs/ClassSettlementAgreement.htm. *Uhl v. Thoroughbred Tech and Telecomms.*, 2001 U.S. Dist Lexis 13115 (S.D. Ind. 2001), settled another class action lawsuit by landowners abutting a railroad right-of-way. The *Uhl* court awarded $31,875 per mile (approximately $6.00 a linear foot), plus an equity interests in the optical fibers deployed, plus 7.5% to 11.25% of the operator's gross receipts.
In an affidavit filed with the United States District Court for the District of Oregon, in *Qwest v. Portland*, (D.Oregon) Civil Action No. 01-CV-1005-JE) Brant Williams, a city engineer for the City of Portland, stated that the combined property value and improvements in the city's rights-of- way was almost $10.00 per square foot.

[11] Assessing right-of-way values at full value is difficult, as value has been rapidly growing over the last 15 years. In its report, NOAA stated "For…rights of way greater than 5 miles in length, price levels rose from $8,026 per mile in 1987 to $11,880 per mile in 1993 to $100,042 in 1997." *See* NOAA at p. 18.

[12] Value of Land in Right of Way: 625,517,587,200 square feet x $5.40/square foot = $3,565,450,247,040.00.

[13] $3,565,450,247,040 (land) + $1,110,589,700,000 (improvements) = $4,676,039,947,040

[14] NOAA report at 12.

[15] *Id.*

NOAA's research identified two valuation trends for market rates for fiber optic rights-of-way fees:

- Linear trend, which places the value of right-of-way in October 1995 at a value approaching $120,000 per mile per year; and

- Exponential trend, which for the same time period established the rates at $100,000 per mile per year.[16]

Employing either of these base numbers as capturing the entire value of the nation's rights of way for a single year produces an annual rental value range between $ 366,153,720,000 and $305,128,100,000.

Normal sales prices for real estate are based on 30 times annual lease payments, according to NOAA. Doing the math, comparable rates for the rights-of-way ranges between $10,984,611,600,000 and $9,153,843,000,000 [17]

A second comparable transaction valuation may be reached by multiplying the "ATF" average value by a corridor enhancement factor. The International Right of Way Association suggests that current prices paid by governments and private utilities to condemn and construct right of way is related the "across the fence value" of the abutting land, plus a multiplier factor to account for the "connectivity nature of right of way". This multiplier accounts for the transactional cost savings realized by the right of way user not having to negotiate rights of passage with each abutting landowner and the value added by the nature of the two points the right of way connects. According to NOAA, the connectivity factor ranges between 2 and 6.[18]

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[16] While the fiber optic rights-of-way numbers identified by Federal Highway Administration and NOAA are supportive of the values discussed in this paper, they establish a floor, not a ceiling. Fiber rights-of-way are not exclusive and most often are in rights-of-way housing competitive fibers. So the value assigned to a particular fiber facility is necessarily less than the value of the right-of-way as a whole.

[17] The NOAA evaluation was based in part on the following transactions identified in its study. In 1994 the Bureau of Reclamation established that the market price for the non-exclusive rights-of-way in rural Nevada reached $50,000 per mile for rural interstate. 1988 research developed by the United States Department of Transportation established a value for non-exclusive rights-of-way per mile in urban areas at $31,250. *See Shared Resources: Sharing Right-of-Way for Telecommunications*, Appendix A, U.S. Department of Transportation (April 1996). A research study by San Francisco established an annual rate of $350,000 per mile for a seven-mile right-of-way that crossed the grounds of the Presidio and the Golden Gate Bridge. The City of Austin Texas charges the equivalent of $126,316 per mile per year for an easement on 31 miles of Transit Authority right-of-way. The Massachusetts Turnpike Authority concluded a deal for 50 miles of right-of-way with Level 3 Communications of Boulder, Colorado for $112,477 per mile per year plus a fee for each fiber deployed. The parties further agreed that these additional fees per fiber have the potential to raise the level of compensation to $1 million per mile.

[18] NOAA acknowledges this multiplier in its seminal study: "In contrast to the ATF [Across the Fence] approach, what is called a 'corridor value' accounts for assemblage of land parcels into a contiguous right of way. ATF values for land along a right of way may be multiplied by an 'assemblage factor' or 'corridor enhancement factor' to reach an estimate….Some analyses have determined that corridor values typically exceed ATF appraisals by a factor of two to six." (NOAA at p. 6) *See* also Clifford A. Zoll, A Logical Approach to Appraising Railroad Rights of Ways, *The Appraisal Journal*, October 1998 and Clifford A. Zoll, Rail Corridor Markets and Sale Factors, *The Appraisal Journal*, October 1991.

The following formula projects the value:

Value of right of way = Value of ATF square footage x Value of Connectivity
= $3,565,450,247,040 x 2
= $7,130,900,494,080

CONCLUSION

The total value of the land and improvements held in trust by state and local governments for the taxpayer is enormous. Using conservative assumptions, the value ranges from $1.1 Trillion for the improvements alone to $4.7 Trillion for the improvements and the ATF land value. However the cost of acquiring a right-of-way corridor necessarily is more expensive than simply the ATF value of the abutting land. Applying the lowest corridor enhancement factor now employed by appraisers suggests the value is $7.1 Trillion. These results are consistent and conservative when measured against comparable transactions reported by federal government agencies.

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Another way to think of this multiplier effect has been captured by Charles P. Bucaria and Robert G. Kuhs in their paper "*Fiber Optic Communications Corridor Right of Way Valuation Methodology"* delivered at the December 4, 2002 Appraisal Institute Workshop. They captured the multiplier as "Cost Avoidance Analysis." David Harris in an unpublished paper cited by the Department of Transportation study below, identifies that the savings from dealing with a single landowner can be as much as the purchase price of the land.
The U.S. Department of Transportation has also accepted the premises that a straight valuation based upon "ATF" or the value of adjacent land is not sufficient for valuation of a telecommunications corridor. "Using adjacent real estate values directly overlooks the degree of uninterrupted access afforded by public rights-of-way as well as the very real financial and administrative advantages of dealing with one agent rather than a number of individual landowners." The Department then cites examples of this "continuity factor". Citing from Miltenberger's "Rail Right of Way Valuation," *The Appraisal Journal* for 1992, Vol. 60, No. 1 (Chicago IL), DOT demonstrated that the lowest continuity factor employed was 1.9 by Penn Central in 1995.