

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	iii
REPLY COMMENTS OF ALLIED FIBER, LLC.....	1
I. The Comments Make Clear that the Plan Must Address the Middle Mile and the Internet Backbone.	1
A. Middle Mile Build-Out in Rural Areas is Uneconomic Because of the Great Distances between Rural Areas and the Internet Backbone.	3
B. There is a Need for Competitive Alternatives to Existing National Backbone Providers.	4
C. The Nation’s Internet Access Facilities Need to Be Upgraded.	6
II. Comments Agree that the FCC Should Assess the State of Middle Mile and Backbone Facilities and Provide Appropriate Incentives to Encourage the Build-Out of Carrier-Neutral Middle Mile and Backbone Infrastructure.	9
A. Commenters Agree that the FCC Should Collect Data regarding Middle Mile and Backbone Facilities.	9
B. The FCC Should Provide Incentives to Stimulate the Proliferation of Open, Carrier-Neutral Physical Broadband Infrastructure.	10
CONCLUSION.....	14
CERTIFICATE OF SERVICE	15

SUMMARY

Commenters agree that the national broadband plan must develop a strategy for the growth and improvement of not only last mile facilities but middle mile and backbone facilities as well. The comments describe several concerns with respect to the nation's middle mile and backbone infrastructure. First, building middle mile facilities in rural areas is cost prohibitive in many instances due to the long distances between rural areas and the Internet backbone. Second, there is a lack of competitive alternatives for smaller broadband providers to gain access to critical middle mile infrastructure, and redundancy and diversity have suffered due to industry consolidation. Third, our country's Internet access facilities need to be upgraded, particularly given the increasing need for Internet capacity as local network speeds increase and bandwidth intensive applications proliferate.

In order to address these issues, the FCC should collect data regarding middle mile and backbone facilities and should provide incentives to stimulate the proliferation of carrier-neutral infrastructure. In addition to providing targeted government grants, subsidies, and tax incentives to promote the build-out of and improvements to physical Internet infrastructure, the national plan should provide incentives to encourage open and non-discriminatory access to this infrastructure. While the FCC should not adopt heavy-handed regulations mandating the separation of the ownership of physical infrastructure from the provision of services, it should encourage the development of companies whose sole focus is to provide non-discriminatory access to physical facilities, such as dark fiber and open, carrier-neutral colocation facilities integrated with wireless towers. Providing such incentives will remove existing economic and network barriers for broadband providers; increase the diversity, redundancy, and capacity of the nation's broadband infrastructure; and facilitate the provision of broadband Internet access to all Americans.

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

In the Matter of)

A National Broadband Plan for Our Future)

) GN Docket No. 09-51
)
)

REPLY COMMENTS OF ALLIED FIBER, LLC

Allied Fiber, LLC (“Allied Fiber”), pursuant to the invitation extended by the Federal Communications Commission (“FCC” or “Commission”) in its Notice of Inquiry dated April 8, 2009 (“Notice of Inquiry”),^{1/} hereby submits its reply comments regarding the FCC’s development of a national broadband plan as mandated by the American Recovery and Reinvestment Act of 2009 (“Recovery Act”).^{2/} Allied Fiber was formed in June of 2008 to design, build, and operate a carrier-neutral, national dark fiber long haul network with integrated wireless towers and colocation facilities.

I. The Comments Make Clear that the Plan Must Address the Middle Mile and the Internet Backbone.

Commenters agree with Allied Fiber that in order for the national broadband plan to facilitate the provision of broadband Internet access to all Americans, the plan must take into account all physical components of the Internet, fixed-line and wireless, including not only last mile facilities but middle mile and backbone facilities as well. As Telcordia Technologies noted, “While last mile and access networking often dominate the discussion, it is necessary to ensure adequate, robust capability in backbone, feeder, and middle-mile networks to realize the benefits

^{1/} *A National Broadband Plan for Our Future*, Notice of Inquiry, 24 FCC Rcd 4342 (2009).

^{2/} American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

for consumers, organizations and businesses.”^{3/} Similarly, the National Association of Telecommunications Officers and Advisors noted, “As important as it is to understand where consumer connections exist, there is as pressing a need to know what middle mile lines are in play, and which areas could stand to benefit from investment in expanded middle mile deployments. Offering cutting-edge wireline and wireless broadband connectivity at the last mile is only as good as the middle mile backhaul that delivers the information to the Internet backbone.”^{4/} Clearwire Corporation’s comments likewise noted that “‘middle mile’ or backhaul facilities are an essential input for the construction of virtually all telecommunications networks – broadband, wireless and large businesses. Clearwire urges the Commission to address in its National Broadband Plan the ever increasing reliance of mobile broadband Internet access providers upon special access and other middle mile and backhaul services . . .”^{5/} Failure to adequately consider the middle mile and Internet backbone will hamper the ability of last mile providers to offer robust broadband service.

^{3/} Telcordia Technologies at 6; *see also* Wireless Internet Service Providers Association at 12 (“The Commission asks for comments on the relevant product and geographic markets. WISPA agrees that there are different product markets, including mobile broadband, fixed broadband, residential broadband, business broadband and backbone networks.”).

^{4/} National Association of Telecommunications Officers and Advisors at 53.

^{5/} Clearwire Corporation at 5-6; *see also* Computer & Communications Industry Association at 2 (advocating that the FCC’s broadband deployment plan focus on “dismantling existing last- and middle-mile bottlenecks that impede the provision of competitive, affordable and robust broadband services”); American Cable Association at 7 (stating that the FCC’s national broadband plan should ensure that “broadband providers . . . have non-discriminatory access to middle mile infrastructure at reasonable and non-discriminatory special access rates, terms, and conditions”); National Cable & Telecommunications Association at 36 (“Promoting new sources of middle-mile capacity can help reduce the cost of delivering broadband. Of course, such conduits should be made available on a non-discriminatory and technology-neutral basis . . .”).

Consequently, the FCC must gain an understanding and focus its attention on all aspects of our nation's Internet infrastructure, not just the parts of networks that touch end users.^{6/} The recently released Notice of Funds Availability ("NOFA") for the Recovery Act's broadband programs places proper emphasis on both last mile and middle mile technologies by establishing separate guidelines and criteria for these two distinct types of broadband infrastructure projects. The FCC should adopt a similar bifurcated view in the establishment of the national broadband plan.

A. Middle Mile Build-Out in Rural Areas is Uneconomic Because of the Great Distances between Rural Areas and the Internet Backbone.

Many comments discussed the prohibitively high costs of building middle mile facilities in rural areas due to the distance between the local broadband service provider and the Internet backbone. For instance, the United States Telecom Association noted that "[s]uch facilities can be extremely costly to build and maintain in more rural areas because of their length and the relatively small number of end users over which to spread the cost. . . . Some areas may have loop lengths amenable to last mile solutions with a reasonable cost but the expense of broadband transport between such areas and the Internet backbone may be prohibitive."^{7/} Similarly, Level 3 Communications LLC stated, "Middle-mile infrastructure facilities can span hundreds of miles to reach the nearest Internet backbone access point, so the capital investment costs associated with building out middle-mile infrastructure in both underserved and un-served areas is prohibitive

^{6/} See, e.g., Telcordia Technologies at 13 ("The end-to-end availability of the network and the predictability of its service quality are critically important to the adoption and use of broadband networks and delivery of benefits to the nation.").

^{7/} United States Telecom Association at 18.

and there is thus little incentive for middle-mile providers to build in those areas.”^{8/} Numerous other commenters, Allied Fiber among them, agreed with this assessment.^{9/}

B. There is a Need for Competitive Alternatives to Existing National Backbone Providers.

Another recurring theme that emerged among commenters is the need for more readily available, affordable access to the Internet backbone. Like Allied Fiber, other commenters addressed the negative competitive effects caused by the disappearance of industry-wide peering and consolidation of Internet routes in the Internet’s physical layer.^{10/} Specifically, vertically-integrated large carriers currently control much of the Internet backbone, and given that they compete with smaller carriers in the provision of broadband services, such large carriers have a financial and competitive incentive to consolidate Internet routes and limit smaller carriers’

^{8/} Level 3 Communications LLC at 16.

^{9/} *See, e.g.*, Allied Fiber at 15-17; FiberTower Corporation at 5 (“Insufficient backhaul is particularly problematic in rural areas because of the often great distances between a local network and an Internet connection. In the [Notice of Inquiry], the Commission asks whether backhaul costs are an impediment to further broadband deployments. The answer is ‘yes.’ The longer the transport distance, the greater the expense. The high cost of middle mile and last mile backhaul – particularly in rural areas – is a major barrier to affordable, universal broadband.”); American Cable Association at 7 (explaining part of the broadband problem as the lack of “high-speed, broadband connectivity between rural broadband cable and telephone plants and the Network Access Points (NAPS) they must connect to, which are almost exclusively located in major urban centers”); National Telecommunications Cooperative Association at 17 n.30 (noting that costs for middle mile and Internet backbone providers “are considerably higher in rural areas because of the distance of the middle mile”); Verizon and Verizon Wireless at 25 (“In other rural communities that are distant from the long haul facilities that can carry traffic to the Internet backbone, the problem may be the lack of availability or high costs of ‘middle mile’ facilities. . . . Without adequate middle mile capacity, a rural broadband provider may not be able to provide service that will meet the needs of its end users, or may not be able to provide service at all, even if the ‘last mile’ facilities are in place.”); Wireless Internet Service Providers Association at 5 (“[I]n many remote areas of the country, fiber-based technologies will not be readily available, or will be too expensive to access given the distance to the Internet backbone, the lack of competitive alternatives or the inaccessibility of towers to support affordable wireless backhaul.”).

^{10/} *See, e.g.*, Allied Fiber at 9; Public Knowledge, Media Access Project, The New America Foundation, and U.S. PIRG Comments at 26-27 (“The [Regional Bell Operating Companies] preferred to build out their private infrastructure, not subject to peering requirements. In a relatively brief time, industry-wide peering essentially disappeared, altering and consolidating the middle mile market.”).

ability to gain affordable access to these critical Internet chokepoints.^{11/} As the National Telecommunications Cooperative Association advocates, the Commission should “ensure that large, vertically-integrated Internet backbone providers do not abuse their market power by imposing unfair and discriminatory pricing on small, rural communications carriers providing retail high-speed Internet access service in rural, insular and high-cost areas of the United States.”^{12/} Comments filed in this proceeding were replete with similar requests that the FCC address the lack of competition in the middle mile and backbone markets as part of its national broadband plan.^{13/} For instance, Level 3 Communications LLC stated, “The lack of competitive alternatives for middle-mile transport represents a stubborn obstruction to providing broadband

^{11/} See, e.g., Sprint Nextel Corporation at 44 (“One of the best means of fostering competition in the broadband services market is to ensure that one of the critical inputs to those services – special access or middle mile backhaul facilities – are available to broadband service providers at reasonable rates, terms and conditions. In light of the overwhelming record evidence that incumbent LECs such as AT&T and Verizon exercise monopoly control over these backhaul facilities in their respective territories, the Commission should act expeditiously to address this market failure.”); T-Mobile USA, Inc. Comments at 11 (“T-Mobile and other independent wireless providers also largely rely on the infrastructure controlled by the incumbent local exchange carrier (‘ILEC’) operations of AT&T and Verizon for high-speed ‘backhaul’ circuits that are critical arteries in wireless. In particular, backhaul – or ‘middle mile’ broadband – is essential for wireless networks to provide mobile broadband service nationwide. Thus, ensuring competitive access to necessary inputs like special access services for backhaul will be crucial to advancing Congress’ and the Commission’s policy goals of nationwide broadband.”); Public Knowledge, Media Access Project, The New America Foundation, and U.S. PIRG Comments at 27 (stating that the current “environment has utterly failed to produce the residential service or middle mile infrastructure we must have to meet our national broadband needs”).

^{12/} National Telecommunications Cooperative Association at 38.

^{13/} See, e.g., Public Knowledge, Media Access Project, New America Foundation, and U.S. PIRG at 22 (“There is little to no competition for broadband services in the residential and ‘middle mile’ markets. As a result, U.S. consumers pay higher rates for services with slower speeds than do consumers in other industrialized nations.”); Sprint Nextel Corporation at 11-12 (“Absent these middle mile connections, broadband networks cannot operate, leaving consumers without access to a broad array of services. The vast majority of ‘middle mile’ backhaul connections are special access facilities (usually a combination of channel termination and channel mileage offerings) obtained from incumbent LECs. . . . There is little, if any, competition for middle mile special access services.”).

services in underserved and unserved markets.”^{14/} Level 3 also stated that “competition among multiple middle-mile transport providers is necessary in order to . . . encourage long-term and sustainable growth in the last-mile market. If there is at least one other choice among middle-mile providers serving a given area, then the market will ensure that pricing for such services will be competitive.”^{15/} The National Cable & Telecommunications Association (“NCTA”) likewise noted the middle mile problem faced by Internet Service Providers (“ISPs”), “particularly in rural areas, where there are often no alternatives to the incumbent local exchange carriers for the backhaul facilities needed to carry their Internet traffic to the nearest Internet connection point.”^{16/} NCTA is exactly right when it stated that “[p]romoting new sources of middle-mile capacity can help reduce the cost of delivering broadband.”^{17/}

C. The Nation’s Internet Access Facilities Need to Be Upgraded.

Numerous comments identified capacity problems as a primary concern for the Commission to address in the establishment of the national broadband plan. Many parties discussed the need for additional middle mile and backbone capacity as last mile bandwidth increases and bandwidth intensive applications proliferate.^{18/} For example, the Wireless

^{14/} Level 3 Communications LLC at 1-2 (opining that “the principal focus should be to assure that subscribers and their retail ISPs can benefit from the advantages of *competition* . . . , [which includes] assuming competition for wholesale ‘middle mile’ facilities”).

^{15/} *Id.* at 16.

^{16/} National Cable & Telecommunications Association at 36.

^{17/} *Id.*

^{18/} *See, e.g.*, Allied Fiber at 10-12; United States Telecom Association Comments at 18 (“Furthermore, as end user applications such as video streaming and others become more bandwidth intensive, high capacity last mile solutions may still encounter a bottleneck at the middle mile facility . . . The Commission should consider evaluating the extent to which this issue poses a barrier to broadband access.”); National Telecommunications Cooperative Association Comments at 36 (“Increasing broadband demand means that carriers must increase their transport capacity to the Internet backbone.”); Verizon and Verizon Wireless Comments, Declaration of Michael L. Katz, *Investment, Innovation, and Competition in the Provision of Broadband Infrastructure*, June 8, 2009, at 10 (“[E]nd users even cause congestion at higher levels of traffic aggregation, such as backbone networks. This congestion is why

Communications Association International, Inc. (“WCAI”) explained that “[t]oday’s cellular networks typically rely on T1 lines to backhaul traffic from base station sites” and that the “transition to next generation mobile wireless broadband technologies with bandwidth capabilities per base station in the range of 100 to 300 Mbps is rapidly rendering these T1 lines obsolete.”^{19/} WCAI’s comments concluded, “Without adequate backhaul and middle mile capacity, the throughput otherwise available on 4G networks will not be realized. Because existing backhaul networks are unable to adequately support next-generation 4G mobile wireless broadband technologies, new backhaul networks must be built.”^{20/}

FiberTower Corporation similarly reported that middle mile and backhaul infrastructure “has not been upgraded in two decades” and “has fallen off pace just as the capabilities of wireless and wireline broadband networks – and Internet backbone facilities – have exploded. This lag in development has inhibited the growth, service quality, and operational efficiencies of broadband services.”^{21/} As reported by the National Telecommunications Cooperative Association (“NTCA”), the National Exchange Carrier Association (“NECA”) performed an extensive analysis of middle mile costs and concluded that “high-speed Internet service is uneconomic in many rural areas” and further, “that increased IP traffic will exacerbate, rather than ameliorate, the problem, as existing revenue shortfalls are multiplied as the scale of operations increases.”^{22/}

network operators have to continue to invest large amounts of money in expanding backbone network capacity.”); Wireless Internet Service Providers Association at 8-9 (“At a minimum, assuming the [wireless ISP] can connect to the backbone, there may not be sufficient capacity and consumers will be unable to receive applications such as voice and real-time programs.”).

^{19/} Wireless Communications Association International, Inc. Comments at 44.

^{20/} *Id.* at 44-45.

^{21/} FiberTower Corporation at 5.

^{22/} National Telecommunications Cooperative Association Comments at 37.

Recent history shows that capacity constraints become an even greater concern during major news events, which arguably are the exact circumstances under which the public most heavily depends on the Internet for timely news or emergency information. For example, Michael Jackson's unexpected death recently caused a surge in web traffic that significantly affected user experiences on the Internet. Akamai Technologies, Inc., which tracks online traffic, reported that "traffic to the hundreds of news sites it monitors, including those of CNN, Reuters and the BBC, jumped to more than 4.2 million visitors per minute."^{23/} After the news of "Michael Jackson's death broke on the Internet . . . the Internet broke too. Twitter crashed, as did Michael Jackson's Wikipedia entry. Facebook lumbered under countless Michael Jackson video uploads retrieved from an over-accessed You Tube, and both ground to a halt."^{24/} Shortly after news of Jackson's death, numerous press reports described Internet disruptions caused by the spike in Internet traffic, such as entertainment news sites crashing, users of Google News "experienc[ing] difficulty accessing search results for queries related to Michael Jackson," and even a 40-minute collapse of AOL's instant messaging system, AIM.^{25/} As Telcordia Technologies noted in its comments, emergencies such as "a pandemic or bioterrorism threat/event will likely result in a significant shift in telecommunications patterns that the currently deployed networks may have difficulty accommodating, potentially resulting in congestion and delays for all applications on broadband networks (including data, voice and multimedia traffic)."^{26/} The national broadband plan must address current capacity constraints to

^{23/} Sharon Gaudin, *Michael Jackson's Death Sparks Internet Crush*, COMPUTERWORLD, June 26, 2009.

^{24/} Helen A.S. Popkin, *'Net Big Enough for Michael Jackson and Iran*, MSNBC.COM, June 26, 2009.

^{25/} See, e.g., Brian Stelter, *With Jackson News, A Surge in Web Traffic*, NEW YORK TIMES, June 26, 2009.

^{26/} Telcordia Technologies at 19.

ensure that our country's Internet infrastructure can operate consistently at all times, particularly during times of emergency.^{27/}

II. Comments Agree that the FCC Should Assess the State of Middle Mile and Backbone Facilities and Provide Appropriate Incentives to Encourage the Build-Out of Carrier-Neutral Middle Mile and Backbone Infrastructure.

In light of the demonstrable need to address middle mile and backbone capacity, the national broadband plan should include collection data on the current deployment of such facilities and policies fostering the construction of additional physical infrastructure that will be available on an open, non-discriminatory basis.

A. Commenters Agree that the FCC Should Collect Data regarding Middle Mile and Backbone Facilities.

Given the importance of the middle mile and backbone to the success of the national broadband plan, commenters agree with Allied Fiber that the FCC needs to gain a better understanding of the state of these facilities, including an understanding of which entities own the Tier One backbone, the location of Tier One national routes, and the nature of those routes' vulnerabilities. This information should be an essential part of the FCC's mapping and data collection efforts. As the American Cable Association stated in its comments, "Policymakers should also gather data on the Internet backbone and 'middle-mile' Internet access points that could support broadband network facilities. This includes: (i) fiber routes and fiber-lit locations; (ii) locations of base stations, towers, switches, and colocation facilities; and (iii) locations of non-communications infrastructure, such as water towers, railroads, and highways."^{28/} Similarly, the FCC must recognize that "ubiquitous broadband is not possible without the presence of high capacity middle mile and last mile backhaul networks. Thus, in developing the national

^{27/} Allied Fiber at 12-13 (discussing the effects of capacity constraints caused by the proliferation of high bandwidth technologies, such as the BBC iPlayer in the U.K.).

^{28/} American Cable Association at 10.

broadband plan, the Commission must conduct a thorough review of the backhaul market and take aggressive action to ensure its viability and development.”^{29/}

B. The FCC Should Provide Incentives to Stimulate the Proliferation of Open, Carrier-Neutral Physical Broadband Infrastructure.

Allied Fiber agrees with comments that urge the creation of appropriate government incentives for additional broadband infrastructure. For example, the National Cable & Telecommunications Association advocated in its comments for narrowly targeted government subsidies and investment, particularly in unserved areas, in order to advance the development of a commercially competitive marketplace without “creating disincentives for providers to continue deploying broadband through private investment.”^{30/} Level 3 Communications LLC likewise stated, “With government assistance, there are means available to attract risk capital to the construction of broadband infrastructure in underserved and unserved areas of the country.”^{31/} Consequently, targeted government grants, subsidies, and tax incentives should be implemented specifically to promote physical infrastructure.

Equally important are incentives to encourage open and non-discriminatory access to this physical infrastructure. At the same time, however, care must be taken not to undermine private investment through heavy-handed regulation. Some suggest, for example, that open access can be achieved by separating the ownership of physical infrastructure from the provision of services.^{32/} Mandating such structural separation by regulatory fiat may lessen the incentives to

^{29/} FiberTower Corporation at 1.

^{30/} National Cable & Telecommunications Association at 31.

^{31/} Level 3 Communications LLC at 9.

^{32/} *See, e.g.*, Public Knowledge, Media Access Project, The New America Foundation, and U.S. PIRG Comments at 25 (suggesting structural separation); Ionary Consulting at 15 (“[W]e recommend that the ideal direction is not to separate carriage and content but to move the split down the stack, and separate facilities from services.”).

construct facilities. On the one hand, companies whose business plan is to provide open, non-discriminatory access solely to physical infrastructure should be encouraged. The natural incentives of such businesses would be to market and sell infrastructure to as many buyers as possible. By contrast, the incentives of transport service providers or vertically integrated carriers are not necessarily aligned with the public interest of ensuring the broadest possible access to broadband facilities with reasonable and non-discriminatory rates and conditions.^{33/} As noted by one commenter, “[I]nvestment should be made, and broadband deployed in a manner that enables multiple uses wherever possible to ensure that the public funds maximize societal benefits.”^{34/}

Commenters have also echoed Allied Fiber’s suggestion to proliferate colocation and points of interconnection for peering and connectivity to long haul networks that provide worldwide Internet access. Linking open networks into a national infrastructure “will lead to more local peering points, particularly in underserved areas.”^{35/} “As has happened in other countries, by allowing individuals, groups, businesses, and governments located in rural areas commercially viable access to these critical ‘middle mile’ facilities, communities are able to build and operate new forms of businesses [and] provide needed services, improving local economies, local schools, and quality of life.”^{36/} Verizon also expressed similar ideas in its comments, stating that “[r]ural providers in several states have met the demand for middle-mile

^{33/} See, e.g., Big Think Strategies Comments at 2-3 (“It is an unfortunate fact that any for-profit network operator will have a natural incentive to identify those communications with the highest value and look for ways to impose excessive charges for them – whether by conditioning the very availability of such communications on paying a fee (that may far exceed the cost of providing the service), by preventing users from taking advantage of innovative alternative ways to bypass the network operator’s own proprietary services with something better or cheaper, or in other more subtle ways.”)

^{34/} New Jersey Division of Rate Counsel at 57.

^{35/} Big Think Strategies at 12.

^{36/} *Id.*

transport services by constructing their own fiber-optic transport networks, often through a consortium. In some rural high cost areas, however, the cost of the additional transport mileage is high enough to impinge on a rural broadband provider's ability to offer services in those areas.^{37/} The deployment of dark fiber with multiple, readily accessible points of interconnection in routes that traverse rural areas could help mitigate these concerns.

The benefits of this physical infrastructure are manifold. In particular, it will create the conditions for competitive alternatives in the middle mile. As Level 3 Communications LLC stated, "By using government funding to grow connections to these unserved and underserved markets, the Plan will seed a competitive 'middle-mile' market."^{38/} Action is required because "Congress explicitly envisioned that broadband-related economic stimulus funds could be used to support the deployment and use of [middle mile and last mile backhaul] infrastructure. The Commission should honor and enhance Congress's economic stimulus funding mandates and incorporate a vigorous middle mile and last mile backhaul network deployment strategy into its national broadband plan."^{39/} Through encouraging the proliferation of dark fiber and carrier-neutral colocation facilities, the FCC will remove economic and network barriers for broadband providers, thus enabling them to link unserved and underserved areas to the Internet.

Stimulating the proliferation of open, physical Internet facilities will help address the need for additional capacity, particularly given the emergence of fourth generation ("4G") wireless broadband services and bandwidth hungry applications, and will provide much needed diversity and redundancy. As Allied Fiber discussed in its comments, market dynamics have caused the consolidation of diverse Internet routes, an effect that could result in significant

^{37/} Verizon and Verizon Wireless at 114-15.

^{38/} Level 3 Communications Comments at 12-13.

^{39/} FiberTower Corporation at 5.

public safety and security issues.^{40/} Other comments addressed this issue as well. For example, Telcordia Technologies discussed that building physical diversity and redundancy into our nation’s Internet infrastructure is essential “to disallow single points of failures” and mentioned that “[t]here have been instances in the past whereby circuits designed for diversity were inadvertently consolidated over the same physical infrastructure over a period of time.”^{41/} Big Think Strategies similarly addressed infrastructure security issues:

A hidden vulnerability of allowing network operators to vertically integrate to the exclusion of other networks is an increased centralization and vulnerability of the overall system. A commonly understood benefit of the basic design of the Internet is that communications is not necessarily or particularly concentrated; instead, as the old saying goes, when the network detects damage, it simply routes around it. We believe that this advantage of the fundamental Internet architecture has been compromised in recent years^{42/}

Wide deployment of dark fiber would achieve open, accessible network infrastructure, which will result in many providers “find[ing] it advantageous to establish multiple peering points with other networks, including a multiplicity of local peering points.”^{43/} This will not only create network efficiency, “it will also make communications more robust, secure, and survivable.”^{44/} As the United States Telecom Association noted, President Obama has identified our digital infrastructure as a “strategic national asset” and has emphasized the need to “ensure that these networks are secure, trustworthy, and resilient.”^{45/} A national broadband plan that supports the

^{40/} See Allied Fiber at 9-10; Notice of Inquiry ¶ 74 (requesting comment on special concerns relating to the diversity and redundancy in critical network infrastructure).

^{41/} Telcordia Technologies at 18.

^{42/} Big Think Strategies at 8.

^{43/} *Id.*

^{44/} *Id.*

^{45/} United States Telecom Association at 34-35 (recognizing that “these communications and information networks, which together form the foundation of our broadband infrastructure, must be designed, built, managed, and operated in ways that enhance our overall public safety and homeland security”).

development of carrier-neutral infrastructure will promote physical diversity and redundancy and ameliorate critical public safety and security concerns.

CONCLUSION

The FCC must design the national broadband plan consistent with the views expressed herein to ensure that investments are made in diverse, redundant, sufficiently scalable broadband infrastructure to enable broadband capacity to keep up with the ever growing demand for broadband in the future.

Respectfully submitted,

/s/ Hunter Newby _____

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July 21, 2009

CERTIFICATE OF SERVICE

I hereby certify that on this 21st day of July, 2009, a true copy of the foregoing

Comments was served as shown, upon:

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