

**Before the  
Federal Communications Commission  
Washington DC 20554**

In the Matter of )  
)  
Development of Nationwide Broadband Data )  
to Evaluate Reasonable and Timely )  
Deployment of Advanced Services to All ) WC Docket No. 07-38  
Americans, Improvement of Wireless )  
Broadband Subscribership Data, and )  
Development of Data on Interconnected )  
Voice over Internet Protocol Subscribership )  
)

**JOINT COMMENTS OF VERIZON AND VERIZON WIRELESS**

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**JOINT COMMENTS OF VERIZON<sup>1</sup> AND VERIZON WIRELESS**

**I. Introduction and Summary**

The Commission’s procompetitive broadband policies have played a vital role in expediting nationwide deployment of broadband services, and information about the state of the broadband marketplace helps the Commission develop its broadband policies and provides valuable information to other policymakers and the public. Indeed, the Commission’s data collection process – relying largely on Form 477 reports – has become more sophisticated in recent years, including a requirement that broadband providers report data on available “speed tiers” and identify the particular technologies being used to provide broadband to specific ZIP Code areas. But while the Commission itself has an important role to play as a collector of broadband data, in the interests of efficiency, protecting the agency’s own resources, and limiting the regulatory burdens imposed on the competitive broadband industry, the Commission should not place the entire data collection burden on itself.

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<sup>1</sup> In addition to Verizon Wireless, the Verizon companies participating in this filing are the regulated, wholly owned subsidiaries of Verizon Communications Inc.

Instead, the Commission should draw on multiple resources to enhance its understanding of the broadband marketplace. Aggregating and synthesizing the data the Commission collects in FCC Form 477 with broadband data from other sources, including state-level public-private partnerships, private sector research groups, and other government agencies that collect similar information, such as the Department of Commerce’s Census Bureau, would increase significantly the quantity and quality of the available data concerning broadband availability and adoption.

The Commission also can add to its understanding of the state of broadband availability and adoption by making certain enhancements to the wireless broadband data it collects on FCC Form 477 as suggested in the Notice of Proposed Rulemaking (“NPRM”).<sup>2</sup> Specifically, refinements to the collection of data regarding wireless broadband subscriptions and the required submission of wireless coverage maps would provide the Commission with a richer, more detailed picture of the broadband sector. Nevertheless, the Commission should not substantially overhaul Form 477 given the significant revisions the Commission recently made to the form and the fact that the first data report to reflect these changes was released in April 2006 – just over a year ago. Further, several of the alternatives mentioned in the NPRM – including reporting customer counts or any other data by 9-digit ZIP Codes – would unduly burden broadband providers, and require the disclosure of even more competitively sensitive information, without significantly improving the Commission’s

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<sup>2</sup> See *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriber Data, and Development of Data on Interconnected Voice over Internet Protocol Subscriber Data*, Notice of Proposed Rulemaking, 22 FCC Rcd 7760 (2007) (“*Broadband Data NPRM*”).

understanding of the broadband marketplace. The Commission should reject such requirements.

**II. The Commission Should Enhance Its Understanding of the Broadband Marketplace by Drawing Information from a Number of Sources, Including State-Level Public-Private Partnerships, Private Sector Surveys, and Census Information.**

To rapidly develop a richer, more detailed picture of the broadband marketplace the Commission should leverage existing sources of high quality data. While certain enhancements to Commission-directed data gathering from carriers may improve the Commission's understanding of broadband availability and adoption, the Commission should look to existing data sources before creating burdensome new reporting requirements – particularly because provider data tells only part of the broadband story. Given the wealth of data currently available, the Commission need not and should not take the entire burden of data collection and analysis upon itself. Instead, the Commission should act as a data aggregator, combining and synthesizing carrier-provided information with data from several other sources. These sources should include state-level public-private partnerships, private sector research groups, and other governmental agencies, such as the Census Bureau, which collects information regarding broadband deployment and adoption.<sup>3</sup>

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<sup>3</sup> The Commission should not collect or include in its Form 477 reports data about international broadband adoption, prices, or other measures, including data similar to that developed by the Organization for Economic Cooperation and Development (“OECD”) or the International Telecommunications Union. As Verizon recently explained, the data and rankings produced by the OECD do not accurately depict the relative levels of broadband penetration among different countries because the OECD does not properly account for different ways of measuring penetration and the various supply-side and demand-side factors that could influence such penetration. *See* Comments of Verizon and Verizon Wireless on the Fifth Notice of Inquiry, GN Docket No. 07-45, at 22-30 (May 16, 2007).

**A. The Commission Should Encourage Funding of, and Leverage the Data Collected By, State-Level Public-Private Partnerships.**

The Commission should look to state-level public-private partnerships to amass important data about broadband availability and deployment.<sup>4</sup> Several states, including Kentucky and Tennessee have instituted public-private partnerships that study and provide recommendations on broadband deployment with an eye toward increasing the deployment of advanced services in their respective states. These partnerships undertake geographic “mapping” assessments of the availability of wireline and fixed wireless broadband services within the state, focusing especially on areas where broadband services are not available. These maps synthesize a wealth of information, including broadband infrastructure information, population density information, and information on existing and proposed infrastructure like roads, water and radio towers, and sewer lines. The result is a map that provides all parties with information on the current state of broadband deployment.

Broadband providers assist these efforts by submitting data about broadband deployment, including coverage maps or other information (such as, in the case of DSL providers, the location of DSLAM-equipped central offices and remote terminals) to the public-private partnerships. Providers generally are willing to share this information with these organizations because sensitive, company-specific information is subject to non-disclosure agreements and the partnership only releases aggregate coverage maps. In

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<sup>4</sup> See *Broadband Data NPRM*, ¶ 26. Several commenters responding to the Commission’s recent Section 706 Notice of Inquiry supported the use of ConnectKentucky as a model for evaluating the broadband marketplace. See, e.g., Comments of the Alliance for Public Technology, GN Docket No. 07-45, at 6-7 (May 16, 2007); Comments of the American Library Association, GN Docket No. 07-45, at 8-9 (May 16, 2007); Comments of the Computer and Communications Industry Association, GN Docket No. 07-45, at 4 (May 16, 2007).

addition, because the partnerships are not government agencies, the information is not subject to federal or state freedom of information statutes.

Once they have completed mapping, these partnerships then gauge consumer demand for broadband services in unserved areas, assess whether existing local assets (*e.g.*, water towers) could be useful in deploying to particular areas, and determine which, if any, providers are capable of providing service. Also, for areas where the business case for broadband deployment might not yet exist, the partnerships consider how various funding programs and solutions might fill in broadband gaps.<sup>5</sup> Because they work at the state and local level, these partnerships can ascertain the particular reasons for gaps in coverage and understand the demographic and geographic factors that play a role in broadband adoption. The initiatives also can develop particularized solutions that make sense in light of the facts on the ground.

Through these efforts, public-private partnerships have improved the understanding of broadband deployment and have increased broadband penetration throughout their respective states. ConnectKentucky, a public-private alliance of corporations, universities, and government entities in Kentucky, has been instrumental in increasing broadband availability from 60% to 92% over the last two years, and is on track to reach near 100% availability by the end of this year.<sup>6</sup> It has done so by undertaking the analysis described above and encouraging broadband deployment through market-based solutions and by

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<sup>5</sup> See, *e.g.*, ConnectKentucky, *Broadband Adoption and Barriers: Results & Analysis from the ConnectKentucky Technology Assessment Study*, available at <http://www.connectkentucky.org/NR/rdonlyres/2F6BAAC1-A6D0-4DD7-BEDF-385030488D6C/0/CKdocSRSBroadbandAdoptionBenchmarks.pdf>.

<sup>6</sup> See *Communications, Broadband and Competitiveness: How Does the United States Measure Up?: Hearing Before the S. Comm. on Commerce, Science & Transportation*, 110th Cong. 5 (2007) (statement of Brian R. Mefford, President and CEO, Connected Nation, Inc.).

identifying available grants and other funding mechanisms. These funding mechanisms include loans with preferential terms for broadband infrastructure construction, traffic aggregation, and the No Child Left Offline program which repurposes used government equipment and provides it to financially needy children in the state.

Although the Commission is not in a position to collect and analyze broadband data at the same level of granularity as state-level public-private partnerships, the Commission could aggregate the state-level data collected by public-private partnerships to inform policymaking at the federal level. Such an effort would benefit from the creation of similar public-private partnerships in additional states. Accordingly, the Commission should encourage current efforts by Congress to establish grant programs or other types of funding to establish these types of public-private initiatives.<sup>7</sup> These groups could advance the Commission's ultimate goals by both gathering and reporting more granular data regarding broadband availability and working at the state and local level to increase broadband adoption.

**B. The Commission Should Collect and Examine Broadband Deployment and Subscriber Data from Existing Public and Private Sources.**

In addition to public-private partnerships, the Commission should draw on a number of other private and public data sources that have the expertise and extant infrastructure to comprehensively collect and analyze broadband deployment and, particularly, demand data. By using these sources, the Commission can avoid imposing additional, burdensome reporting requirements on providers and can acquire significant information concerning the reasons for gaps in broadband availability and adoption that would not be explained by provider data. By relying on existing efforts to analyze broadband, the Commission also can

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<sup>7</sup> See, e.g., S.1190, 110th Cong. § 3 (2007) (establishing a grant program for state broadband initiatives).

avoid the inefficiency and expense involved in Commission staff collecting and analyzing data readily available elsewhere.

Private-sector research studies can provide a fuller picture of the broadband marketplace at a lower cost than the data reporting proposed in the NPRM. For example, the Pew Internet & American Life Project uses telephone and Internet surveys to produce studies regarding a broad array of subjects related to broadband and technology.<sup>8</sup> In addition to releasing complete research studies, Pew provides raw data sets to scholars for further statistical analysis.<sup>9</sup> Rather than collecting its own data at considerable expense, the Commission should consider using Pew's own completed studies and the raw data to analyze the state of broadband deployment and use in the United States.

In addition to private-sector research, the Commission should utilize data gathered by other government agencies that collect information about the American public, especially the Department of Commerce's Census Bureau. The Census Bureau already collects a great deal of national demographic information, and has in the past collected information relating to broadband use. Unlike broadband providers and the FCC, the Census Bureau possesses the

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<sup>8</sup> See Pew Internet & American Life Project, *About Us*, at [http://www.pewinternet.org/about\\_mission.asp](http://www.pewinternet.org/about_mission.asp) (stating that “[t]he basis of its reports are nationwide random digit dial telephone surveys as well as online surveys” which are “supplemented with research from government agencies, academia, and other expert venues; observations of what people do and how they behave when they are online; in-depth interviews with Internet users and Internet experts alike; and other efforts that try to examine individual and group behavior”). For examples of these research studies see Susannah Fox and Gretchen Livingston, *Latinos Online*, Pew Internet & American Life Project (Mar. 2007), available at [http://www.pewinternet.org/pdfs/Latinos\\_Online\\_March\\_14\\_2007.pdf](http://www.pewinternet.org/pdfs/Latinos_Online_March_14_2007.pdf) and John Horrigan, *Wireless Internet Access*, Pew Internet & American Life Project (Feb. 2007), available at [http://www.pewinternet.org/pdfs/PIP\\_Wireless.Use.pdf](http://www.pewinternet.org/pdfs/PIP_Wireless.Use.pdf).

<sup>9</sup> See Pew Internet & American Life Project, *Data*, at <http://www.pewinternet.org/data.asp> (noting that “[s]urvey data are generally released no earlier than six months after the project has issued a report about the survey”).

expertise and infrastructure necessary to collect and analyze large amounts of information, particularly information that is available only by speaking to consumers, such as the reasons why they subscribe or do not subscribe to broadband services. Further, both the Commission and NTIA are familiar with working with the Census Bureau, as the Commission has used the Census Bureau's resources to gather data for the Commission's semi-annual reports on telephone subscribership,<sup>10</sup> and NTIA has partnered with the Census Bureau to collect data and produce a series of reports detailing broadband use.<sup>11</sup> The Commission should renew and extend this partnership for the purpose of collecting additional data on broadband deployment and demand.

Data collected by the Census Bureau is useful for a number of reasons. Such data can be released publicly, increasing the flexibility with which it may be combined with other data sources and made available for analysis. And it can be associated with demographic data that the Census Bureau collects on a common geographic basis (*i.e.*, census-block level). In addition, the Census Bureau has demonstrated that it is uniquely situated to collect "demand-side" information about subscribers because it already collects information on ethnicity, income levels, and a host of other demographic variables – information that broadband

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<sup>10</sup> The FCC's most recent report developed in concert with the Census Bureau was released on May 8, 2007. *See* FEDERAL COMMUNICATIONS COMMISSION, TELEPHONE SUBSCRIBERSHIP IN THE UNITED STATES 2 (May 2007), *available at* [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-272904A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-272904A1.pdf) (noting that the FCC partners with the Census Bureau to gather data about telephone subscribership because the Census Bureau is an "expert agency" in the area of data collection).

<sup>11</sup> *See, e.g.*, U.S. DEPARTMENT OF COMMERCE, A NATION ONLINE: ENTERING THE BROADBAND AGE (2004), *available at* <http://www.ntia.doc.gov/reports/anol>; U.S. DEPARTMENT OF COMMERCE, A NATION ONLINE: HOW AMERICANS ARE EXPANDING THEIR USE OF THE INTERNET (2002), *available at* [http://www.ntia.doc.gov/ntiahome/dn/nationonline\\_020502.htm](http://www.ntia.doc.gov/ntiahome/dn/nationonline_020502.htm); U.S. DEPARTMENT OF COMMERCE, FALLING THROUGH THE NET: TOWARD DIGITAL INCLUSION (2000), *available at* <http://www.ntia.doc.gov/ntiahome/fttn00/contents00.html>.

providers generally do not collect because it has little legitimate business purpose. The Census Bureau could tabulate demographic and economic data correlated with broadband subscription patterns, a line of inquiry that strays from the Commission's core expertise and that also would be unavailable to broadband providers. Rather than imposing new data collection requirements on broadband providers, including any requirements that would force providers to report information at a census block level,<sup>12</sup> the Commission should encourage the Census Bureau to expand its broadband data collection – either voluntarily or under a Congressional directive.<sup>13</sup> The Commission can then synthesize the Census Bureau's data with its own information collection efforts.

**III. Certain Enhancements to the FCC Form 477 Data Collection Program Would Improve the Commission's Understanding of Broadband Availability, But Large Scale Revisions Are Unnecessary.**

Though many of the Commission's goals could be achieved by leveraging existing resources, some of the NPRM's proposals to enhance broadband data collection, particularly with respect to wireless broadband services, would provide a clearer picture of broadband deployment and adoption and should be adopted. Nevertheless, the Commission should not substantially overhaul Form 477 given the significant revisions the Commission recently made to the Form and the fact that the first data report to reflect these changes was released

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<sup>12</sup> The Commission should not require broadband providers to report information by census block groups because census block level data would be very costly and burdensome to produce. *See infra* p. 18.

<sup>13</sup> The broadband data collection bill introduced by Senator Daniel Inouye requires the Census Bureau, in consultation with the FCC, to collect broadband data from residential households in the Bureau's American Community Survey. *See* S. 1492, 110th Cong. § 4 (2007).

in April 2006 – just over a year ago.<sup>14</sup> Indeed, in the recent revisions to Form 477, the Commission significantly expanded the quality and type of broadband data it collects by: (1) requiring filers to categorize broadband connections into five speed tiers and into specific technology categories; (2) requiring incumbent LECs and cable system operators to report broadband availability to residential end user premises in the provider’s service area within a state; (3) requiring all filers that report information about wired or fixed wireless broadband connections to end user locations to report technology-specific lists of the Zip Codes where such service is provided; and (4) requiring mobile wireless service providers to report the number of their broadband subscribers and the ZIP Codes that best represent the filer’s broadband coverage areas. Given the agency’s limited experience with the new data collected pursuant to the last revision of Form 477, it should take time to consider whether existing data submissions are adequate, particularly in combination with the third-party data sources mentioned above, before giving the Form 477 yet another major face-lift. Moreover, as discussed below, requiring substantially more detailed reporting would prove extremely difficult, but likely would not yield data that would be substantially more useful than that already available from the Commission’s and other parties’ current efforts.

A. Some Changes for Wireless Broadband Reporting Are Appropriate.

Although significant revisions to the current Form 477 would be premature and are unnecessary, modest changes to the wireless broadband data collected pursuant to the Form

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<sup>14</sup> See *Local Telephone Competition and Broadband Reporting*, Report and Order, 19 FCC Rcd 22340 (2004) (“2004 Data Gathering Order”). The Commission’s first report reflecting these changes was released in April 2006. See Federal Communications Commission, Industry Analysis and Technology Division, *High-Speed Services for Internet Access: Status as of June 30, 2005* (rel. Apr. 3, 2006), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-264744A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-264744A1.pdf).

477 data collection program are appropriate and will advance the Commission's understanding of the broadband marketplace.

The Commission should require that wireless broadband providers indicate the number of subscribers to wireless broadband service within a state rather than the number of broadband capable handsets on the network. The NPRM correctly observes that broadband capability in a handset does not correlate necessarily to actual wireless broadband use.<sup>15</sup> As the Commission found in its most recent annual report on mobile wireless competition, many handsets that have broadband capability are purchased without a subscription for broadband access: "Not all 3G handset owners are subscribers to wireless broadband services."<sup>16</sup> Limiting reporting to subscribers to wireless broadband services would provide a better picture of mobile wireless broadband subscribership.

However, the Commission should not require that providers separately break out those subscribers that utilize wireless broadband on a less than month-to-month basis.<sup>17</sup> A reporting requirement of that kind is unnecessarily burdensome because the number of individuals using wireless broadband on a less than month-to-month basis is miniscule. Moreover, the Commission should not require that data reported by wireless broadband providers distinguish between broadband subscribers whose wireless devices offer HTML

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<sup>15</sup> See *Broadband Data NPRM*, ¶ 12.

<sup>16</sup> *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, 21 FCC Rcd 10947, ¶ 165 (2006) (citing Morgan Stanley analysis estimating that only about half of customers with 3G handsets were also subscribing to wireless broadband service).

<sup>17</sup> See *Broadband Data NPRM*, ¶ 14.

Internet browsers as opposed to “mobile web browsing.”<sup>18</sup> Although the user experience may vary, the user still is able to access and effectively maneuver through the Internet at broadband speeds with either browser. These requirements would also impose unnecessary burdens on wireless carriers who do not track broadband users in these ways.

The Commission also should collect from wireless broadband providers digital coverage maps depicting the availability of wireless broadband service within a state, rather than continuing to collect ZIP Code information or focusing on billing address information that bears little relation to the location of mobile broadband users. Coverage maps are a better indicator of mobile wireless service availability because they provide an easy to reference picture of where each carrier has service and allow clearer depictions of where service is available from multiple wireless carriers. These coverage maps would show at a glance where gaps exist in wireless broadband coverage and would allow the Commission to focus its efforts on increasing availability in these localized areas. In fact, the effectiveness of these maps might make the participation of wireless providers in the public-private partnerships described above unnecessary. Finally, the Commission should require that both mobile wireless broadband providers *and* fixed wireless broadband providers that offer Wi-Fi services, WiMax services, or other services that provide access to multiple subscribers, report their coverage areas. Extending this reporting obligation to these increasingly popular wireless broadband options will satisfy the interest expressed by the Commission to gather additional data on these services<sup>19</sup> and will help provide the Commission a more complete picture of the extent of wireless broadband coverage. Moreover, some of these fixed wireless

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<sup>18</sup> *See id.*

<sup>19</sup> *See id.* ¶ 17.

carriers are already required to report data on Form 477. Submission of wireless coverage maps should not pose a significant burden.

Conversely, additional reporting obligations tied to a mobile subscriber's address of record cannot effectively determine the extent of wireless broadband coverage and consumer use. Because of the portability of mobile wireless broadband services, the billing address (including ZIP Code) of a subscriber often does not correlate to the location where the service is most frequently used.<sup>20</sup> Additionally, the reliance on ZIP Code or other customer location information fails to account for many areas where wireless broadband services are provided, such as airports and convention centers, but where few, if any, subscriber addresses are found. Mobile wireless broadband availability is thus best reported using digital coverage maps instead of ZIP Codes or other customer location information.<sup>21</sup>

Finally, the Commission should not alter Form 477 to require mobile wireless broadband subscribers to be divided between business and residential end users. Specifically, mobile wireless providers should not be required to report, as residential subscribers, all subscriptions that are not billed to a corporate account, a non-corporate business account, or a government account because this reporting rule would produce misleading estimates of residential use.<sup>22</sup> Indeed, the rigidity of the proposed rule fails to account for the fact that many mobile wireless broadband subscribers use their services for a

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<sup>20</sup> See *2004 Data Gathering Order*, ¶ 18 (stating that billing address information may be a flawed indicator of where a mobile wireless broadband subscriber uses the wireless service because mobile broadband users “may move around within and among coverage areas”).

<sup>21</sup> If the Commission wishes to collect information about the location of wireless broadband subscribers, it should conduct such data collection at the state-level. Data provided at a more granular level would be more misleading than helpful.

<sup>22</sup> See *Broadband Data NPRM*, ¶ 16.

combination of residential and business purposes. For example, many mobile wireless broadband subscribers rely on their wireless service for both commercial and personal purposes. Moreover, some broadband providers – like Verizon Wireless – do not offer different service plans for business or residential users, nor do these providers collect other data about whether subscribers plan to use the service for business or residential purposes. Thus, these broadband providers have no way to accurately determine if the subscriber is a business or a residential user. Accordingly, the Commission should not adopt the filing instruction alternative mentioned in the NPRM.

B. The Commission Should Reject Other Broadband Reporting Obligations that Would Impose Significant Burdens Without Any Attendant Benefit.

A number of the new data collection alternatives mentioned in the NPRM would not enhance the Commission’s understanding of the broadband marketplace in a meaningful way. The Commission should reject such requirements. Specifically, the Commission should not force any broadband providers to report customer counts or other data based on 9-digit ZIP Code information. Unlike the granular data generated through public-private partnerships like ConnectKentucky, data based on these artificial geographic zones will provide a misleading picture about the broadband marketplace. Additionally, the Commission should not mandate that providers report geocoded information about subscriber locations, the specific number of households “passed” by broadband providers, the “actual” user speeds of broadband services, or the price offerings for broadband services. Obliging broadband providers to report these types of information would be resource-intensive and would require the providers to create and track complex information that they do not currently have available. Moreover, these types of granular data would be highly competitively sensitive, making providers more reluctant to cooperate and limiting the value

of the data for the Commission’s purposes given the steps needed to protect this information. And if the Commission were to release this information publicly, the Commission would harm the reporting entities by enabling competitors to compete unfairly with this detailed knowledge of a particular provider’s deployment and marketing strategies. Either way, the limited benefits of this additional data would not outweigh the significant burdens broadband providers would face by reporting this information.

*1. ZIP Codes and Associated Customer Counts*

The Commission should not require wireline or fixed wireless broadband providers to report customer counts or any other data broken out by 9-digit ZIP Codes because the financial and operational burdens would be large and the benefits insignificant.<sup>23</sup> Like 5-digit ZIP Codes, 9-digit ZIP Codes simply represent clusters of mailing addresses grouped into units for efficient mail delivery. However, 9-digit ZIP Codes correlate even less meaningfully with geographic and political boundaries because 9-digit ZIP Codes are designed primarily to benefit business mailers, who receive rate discounts for bulk mailings.<sup>24</sup> Indeed, 9-digit ZIP Codes often correspond to single office buildings or

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<sup>23</sup> See Response to FCC Notice of Inquiry of Connected Nation, Inc., GN Docket No. 07-45, at 3 (May 16, 2007) (“Response of Connected Nation”) (stating that “provider-based zip code level data, does not effectively demonstrate the gaps in broadband service” and an even “more granular geographic unit based system such as nine digit zip code would be problematic on several levels”).

<sup>24</sup> See U.S. POSTAL SERVICE, ZIP CODE FREQUENTLY ASKED QUESTIONS, <http://www.usps.com/ncsc/ziplookup/zipcodefaq.htm> (9-digit ZIP Codes are “intended for use primarily by business mailers who prepare their mail with typewritten, machine-printed, or computerized addressing formats that can be read by the Postal Service’s automated scanners during processing. Mailers who qualify receive a rate discount on First-Class, non-presorted, ZIP+4 mailings of at least 250 pieces and on presorted ZIP+4 mailings of at least 500 pieces. There are also ZIP+4 discounts for bulk business mail.”).

individuals who receive high volumes of mail.<sup>25</sup> The impropriety of requiring data reporting by 9-digit ZIP Codes is highlighted by the Postal Service’s recent decision to offer businesses “vanity” 9-digit ZIP Codes that contain letters instead of numbers.<sup>26</sup> For example, Saks Fifth Avenue’s shoe department in its New York City department store has announced it will have its own 9-digit ZIP Code – 10022-SHOE. Therefore, if 9-digit ZIP code reporting were required, Verizon presumably would have to determine and report whether the shoe department has broadband, as well as other related information such as the technology used to provide it.

Moreover, because 9-digit ZIP Codes often do not correlate with relevant geographic boundaries and related information, such as the Census Bureau’s geographically detailed demographic data, customer counts or any other data broken out at the 9-digit level would add little analytical value. The information would shed no light on why certain geographic areas and demographic groups lack broadband service.

Additionally, the logistical difficulties and the initial and recurring costs of reporting data at the 9-digit ZIP Code level would be substantial. Currently, Verizon reports the 5-digit ZIP Codes in which it provides broadband service based on the service address information contained in Verizon’s customer database. But the service addresses contained in Verizon’s customer database do not contain the 9-digit ZIP Code information that

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<sup>25</sup> See *id.* (stating that 9-digit ZIP Codes may identify “a city block, office building, individual high-volume receiver of mail, or any other unit that would aid efficient mail sorting and delivery”); see also U.S. POSTAL SERVICE, AN AMERICAN HISTORY 1775-2002 39 (2003).

<sup>26</sup> See ABC News, *From Designer Shoes to Designer ZIP Codes* (May 25, 2007), available at <http://www.abcnews.go.com/Entertainment/Story?id=3209607&page=1>; Forbes, *Saks Shoe Department Gets Own ZIP Code* (May 24, 2007), available at <http://www.forbes.com/feeds/ap/2007/05/24/ap3757138.html>.

corresponds to the end-user termination locations of wired broadband connections, and Verizon has no business purpose for that data. Although Verizon possesses billing address information at the 9-digit level for some (but not all) customers, Verizon's Information-Technology department would need considerable time, at a significant cost to Verizon, to synchronize and overlap Verizon's billing address data and service address data to populate a new field in Verizon's customer database that contains the 9-digit ZIP Codes where customers actually receive wireline broadband service. And in some instances the billing address data and service address data may conflict (*i.e.*, the 5 digit ZIP Codes may not match or the billing address may lack a 9-digit ZIP Code), and Verizon would need to manually determine the 9-digit ZIP Code where service is provided. Even if it can collect this data, Verizon would also face significant costs in trying to accurately report this extensive 9-digit ZIP Code level data to the Commission semi-annually. In addition, ZIP Codes – particularly at the 9-digit level – change frequently based on the needs of the Postal Service, further frustrating efforts to consistently track data in this manner.

Finally, the Commission should not require that broadband providers submit customer counts at either a 5-digit or 9-digit ZIP Code level because it would not enhance the Commission's understanding of the broadband marketplace. As described above, ZIP Code reporting is of little value because ZIP Codes often do not correlate with relevant geographic boundaries and related information. Because ZIP Codes add little analytical value to the Commission's understanding of broadband availability and uptake, it follows that customer count data reported at a ZIP Code level would suffer from the same deficiencies. Additionally, the Commission would place a significant burden on broadband providers by requiring the collection and reporting of customer counts. Broadband providers generally do

not maintain customer counts associated with specific ZIP Codes because it serves no useful business purpose, and it would be costly for providers to suddenly collect this information. In particular, if subscriber counts at the 9-digit Zip Code level were required, Verizon's Information-Technology department would need to spend considerable time overlapping and synchronizing its billing and service address information to provide accurate customer counts. And any resulting data would be extremely competitively sensitive, allowing competitors to judge Verizon's level of success in particular areas and target their resources accordingly. Therefore, the Commission should not require the reporting of more granular ZIP Code level data.

## 2. *Geocoded Information About Subscriber Locations*

Geocoded information about subscriber locations also would be of limited value.<sup>27</sup> The value of geocoded data is limited because it only tells the story of where current broadband subscribers reside. Unlike the comprehensive data produced by public-private partnerships like ConnectKentucky or the wireless coverage maps described above, a data collection regime focused on geocoding subscriber locations would fail to address more important questions about broadband service, specifically, where are broadband services not available or adopted and why.

Reporting geocoded information also would be onerous for Form 477 filers. Verizon, for example, generally does not maintain databases that contain geocoded information about its users' locations, although as discussed below, the ConnectKentucky partnership was able to create a Geographic Information System ("GIS") map through geocoding that depicts the broadband marketplace on a more general basis. And the cost and time needed for individual

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<sup>27</sup> See *Broadband Data NPRM*, ¶ 33.

providers to gather this data and implement a database from scratch would be significant. For example, a carrier would need to collect the latitudes and longitudes (or other geographic markers) for each of its subscribers' locations on an individualized basis. This would require the use of specialized technology and expensive consultants. Once the latitudes and longitudes are recorded, the broadband provider would need to run all of this data through a geocoding application that would attempt to sort each subscriber's location into a specific geographic area, very likely a census block. These geocoding applications regularly produce results that inaccurately correlate specific user locations with census blocks, further undermining the usefulness of such data for purposes of analysis (absent time-consuming manual checking).

Moreover, in order to report this data to the Commission, Verizon's Information Technology department would have to restructure Verizon's customer database to associate the geocoded data with every customer's general data. The process of collecting and reporting geocoded information would be costly and logistically difficult and would not serve any significant business purpose. This is why providers generally do not collect such information.

Nevertheless, if the Commission requires the geocoding of subscriber locations, the state-level public-private partnerships proposed above should lead and coordinate the geocoding process. ConnectKentucky's experience in creating a similar GIS broadband service map illustrates that the presence of a non-profit dedicated clearinghouse that collects data and creates maps based on the proprietary deployment data submitted by all broadband providers in a secure and confidential fashion leads to a more efficient and cooperative data

collection process.<sup>28</sup> Conversely, if the Commission requires broadband providers to undertake the geocoding process individually, providers will institute, at great expense, divergent data collection practices and will ultimately produce incompatible data sets of limited value to assessing nationwide broadband deployment and availability.

### 3. *Households Passed*

The Commission should not require broadband providers to report the specific number of homes passed by their broadband-enabled infrastructure beyond its current requirement to provide statewide estimates. Broadband providers already report an estimated percentage of homes within their service areas that are broadband capable within a state. This information – in tandem with data on the total number of broadband subscribers – provides the Commission with a sufficient data set for approximating consumer uptake of broadband services without costly new requirements.

In contrast, carriers often do not collect and track detailed homes passed information and it would be an arduous task for them to assemble it. In the case of wireless providers, the information is irrelevant because it conveys nothing about where service is actually available and used by subscribers.<sup>29</sup> Although wireline carriers possess data about the location of their broadband infrastructure, they do not collect information about the placement of such infrastructure relative to individual subscriber homes or other locations at which broadband service may be desirable. Also, many factors influence whether broadband service actually is available for a particular home such as the distance between a home and a provider's

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<sup>28</sup> See Response of Connected Nation, Inc.

<sup>29</sup> See *2004 Data Gathering Order*, ¶ 18 (noting that mobile broadband users “may move around within and among coverage areas”).

central office and the condition of the system plant. Thus, broadband providers would have to collect this information for every home in order to accurately determine the number of homes where service is available. Collecting this information on a house-by-house basis would be expensive and difficult.

#### 4. *Achieved User Speeds*

The Commission also should not require providers to report the “actual” or achieved broadband speeds delivered to specific customers because providers currently do not collect such information in the ordinary course of business and there is no economically feasible means for doing so.<sup>30</sup> Many factors, including circumstances outside of a provider’s control, make it difficult to track achieved broadband speeds or even an average achieved speed. For broadband offered through shared delivery networks, achieved user speeds vary considerably depending on the level of upstream and downstream traffic and a customer’s distance from a central office. Specific to mobile wireless broadband service, achieved speeds depend upon factors such as the number of customers being served by the same cell site, the user’s distance from that site, the user’s location (*e.g.*, indoor *v.* outdoor), and battery power level. Achievable speeds at any given time and place also are affected by many factors completely unrelated to a provider’s network, such as the congestion in the ISP’s network, speeds of other backbone Internet providers, server performance for web-based transactions, the speeds of applications run by end users, and the time of day.<sup>31</sup> Currently, Verizon and Verizon

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<sup>30</sup> See *Broadband Data NPRM*, ¶ 21.

<sup>31</sup> For example, if a broadband user attempts to retrieve data from MSNBC’s website, the speed at which the data is delivered to the user will vary based on whether MSNBC cached the data on multiple servers throughout the country or stored the data exclusively on servers at a single location.

Wireless do not possess the technical abilities to track and report the achieved speeds of broadband users. And the above-referenced factors would make it extremely difficult and costly for Verizon and other broadband providers to develop and operate accurate speed tracking systems.

Instead of collecting data on achieved speeds, the Commission should continue to require that broadband providers report the authorized transfer rates for each of the Internet services they offer. This data illustrates the broadband speeds available to consumers without imposing significant burdens on broadband providers. If broadband providers overstate their advertised speeds, the competitive broadband marketplace will invariably respond and dissatisfied consumers will switch to other broadband providers.

Moreover, as discussed above, the Commission is already receiving significant amounts of information concerning available speeds as a result of its recent revisions to the Form 477. Rather than further complicate the process and impose additional expense and burdens on providers, the Commission should rely on this new process of reporting based on various “speed tiers.” As Verizon explained in its recent comments in the Commission’s Section 706 proceeding, however, the Commission could get a clearer picture of the broadband services available today by splitting the speed tier data it collects about lower-speed broadband services into two tiers. The threshold 200 kbps qualification for broadband services remains adequate, as many broadband applications like web browsing and e-mail are effectively carried out at this speed.<sup>32</sup> However, recently the Commission began collecting

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<sup>32</sup> Retaining the 200 kbps threshold will allow the Commission to track from a historical perspective the rate at which lower-speed broadband users migrate to higher speed subscriptions. In addition to Verizon, many other commenters in the recent Section 706 proceeding agreed that the Commission should retain the threshold 200 kbps qualification. *See, e.g.,* Comments of AT&T, Inc., GN Docket No. 07-45, at 14-15 (May 16, 2007);

data regarding downstream speeds that include ranges of less than 2.5 Mbps, 10 Mbps, 25 Mbps, and 100 Mbps. While this data is helpful, in order to get a better picture of the services that subscribers use, the Commission should split lower speed services (between 200 kbps and 2.5 Mbps) into two tiers, one for services provided between 200 and 700 kbps in at least one direction and one for services provided at 700 kbps and above. This simple bifurcation would provide the Commission with a more specific understanding of the range of speeds and types of broadband services available.<sup>33</sup>

#### 5. *Price Offering*

The Commission should not modify Form 477 to require that broadband providers report the various subscription prices offered for their broadband services.<sup>34</sup> Indeed, the specific prices that consumers pay vary based on factors such as promotions, bundled discounts, term commitments, and the unique circumstances of prospective customers. Moreover, prices reported by broadband providers in their biannual Form 477 filings would be of little value because broadband prices change quickly and repeatedly throughout the year. Other parties, including private analysts, are in a better position to collect data regarding the prices that customers pay for broadband service and in fact already provide

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Comments of CTIA – The Wireless Association®, GN Docket No. 07-45, at 11 (May 16, 2007).

<sup>33</sup> See Comments of Verizon and Verizon Wireless on the Fifth Notice of Inquiry, GN Docket No. 07-45, at 32-33 (May 16, 2007) (supporting the creation of two reporting categories for broadband services between 200 kbps and 2.5 Mbps because it “would allow the Commission to better understand the prevalence of services on the lower end of the broadband scale”).

<sup>34</sup> See *Broadband Data NPRM*, ¶ 45-46.

reports on exactly that information.<sup>35</sup> There is no reason for the Commission to duplicate this effort and require price reporting on these competitive services. Moreover, the reports of private analysts show that overall prices for broadband services have dropped in the intensely competitive broadband marketplace, thereby making it unnecessary for the Commission to conduct a comprehensive analysis of broadband prices. In the case of DSL services, average prices have consistently decreased in recent years.<sup>36</sup> Entry-level DSL prices have fallen even more, and are now as low as \$14.99 per month.<sup>37</sup> And cable modem operators also have reduced their prices for bandwidth, most often by offering consumers more bandwidth for the same price, and by offering various promotions. With the existing robust competition for broadband services, the Commission should not force broadband providers to expend

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<sup>35</sup> See, e.g., BEN MACKLIN, *BROADBAND PRICES & BUNDLES: INTERNATIONAL TRENDS* (2006), [http://www.emarketer.com/Report.aspx?code=bband\\_pricing\\_aug06&src=report\\_summary\\_reportsell](http://www.emarketer.com/Report.aspx?code=bband_pricing_aug06&src=report_summary_reportsell); 2006 U.S. BROADBAND USAGE AND ATTITUDES SURVEY (2007), [http://www.reportbuyer.com/telecoms/wireless\\_telecoms/wireless\\_broadband/2006\\_u\\_s\\_broadband\\_usage\\_attitudes\\_survey.html](http://www.reportbuyer.com/telecoms/wireless_telecoms/wireless_broadband/2006_u_s_broadband_usage_attitudes_survey.html).

<sup>36</sup> See John Hodulik, *et al.*, UBS, *Wireline Postgame Analysis 18.0* at 5 (May 31, 2007) (“Average DSL ARPU at the Bells was roughly \$26.9 in the first quarter, a decline of 7.3% from a year-ago and roughly 2.4% sequentially.”); Mike McCormack, *et al.*, Bear Stearns, *March Broadband Buzz: A Monthly Update on Critical Broadband Issues* at 5 (Mar. 12, 2007) (“The weighted average DSL ARPU for large cap telecom fell . . . 2.3%, to \$32.06 . . . The decrease represents the ninth consecutive quarter of declining DSL ARPU and a reversal to the improving rates of decline experienced over the last two quarters. We note that AT&T, BellSouth, and Verizon all reported an acceleration in price declines.”). Compare Mike McCormack, *et al.*, Bear Stearns, *Telecom Trends: Dissecting 1Q06 – Profitability Surprises, Spending for Growth* at 3 (May 8, 2006) (noting a weighted average of DSL ARPU for AT&T, BellSouth, and Verizon at \$37.84 in 1Q05 and \$34.34 in 1Q06), with Mike McCormack, *et al.*, Bear Stearns, *March Broadband Buzz: A Monthly Update on Critical Broadband Issues* at 6 (Mar. 12, 2007) (noting a weighted average of DSL ARPU for the same carriers at \$32.06 in 4Q06).

<sup>37</sup> See Verizon, *Verizon High Speed Internet*, at <http://www22.verizon.com/content/consumerdsl/plans/all+plans/all+plans.htm?LOBCode=C&PromoTCode=RD501&PromoSrcCode=L&POEId=TL1DS>; AT&T, *Residential DSL Services*, <http://www.att.com/gen/general?pid=6431>.

significant financial resources and personnel to report on constantly varying subscription prices.

Requiring reporting of mobile broadband pricing would create additional problems. Last year, in its annual report on mobile wireless competition, the Commission devoted five pages (and 35 footnotes) to describing the enormous variation in pricing for broadband and other mobile data services: “These options include pricing based on kilobytes consumed, a flat rate for each use or download of an application (“pay-as-you-go” or “pay-per-use”), and fixed monthly subscription fees for packages allowing either a set amount of data usage or unlimited data use.”<sup>38</sup> Further, the Commission found that the “availability of these pricing options varies by type of application as well as by provider, with providers frequently offering customers a choice of pricing options of a particular application.”<sup>39</sup> The variety in pricing options is the result of vigorous competition among wireless carriers to attract customers by differentiating their broadband and other data services. As the Commission found, “[T]he record indicates that competitive pressure continues to drive carriers to introduce innovative pricing plans and service offerings, and to match the pricing and service innovations introduced by rival carriers.”<sup>40</sup> Attempting to formulate a simple Form 477 reporting procedure for this plethora of wireless pricing offerings would be problematic. The amount of detail and variation that Form 477 would need to account for would undermine its usefulness and impose additional burdens on carriers and Commission staff in analyzing and

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<sup>38</sup> *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, 21 FCC Rcd 10947, ¶¶ 95-100 (2006).

<sup>39</sup> *Id.*

<sup>40</sup> *Id.* ¶ 3.

compiling the information. It would, for example, be very difficult to compare one carrier's per-kilobyte pricing scheme with another carrier's flat rate, and extremely hard, if not impossible, to determine which customers of which carriers in each state subscribed to which pricing plans. Similar problems would arise if the Commission required wireline broadband providers to report pricing information.

C. The Commission Should Not Require Reporting on VoIP Subscribers

Finally, the Commission should not modify Form 477 to collect additional information about the number of interconnected VoIP subscribers because this information differs from the policy objectives of broadband data collection.<sup>41</sup> Broadband data collection focuses on data relating to broadband access services, such as where providers offer service or the prevalence of the different technologies used to provide broadband service. Conversely, the Commission's proposed data collection regarding VoIP subscribers focuses on the prevalence of an application – interconnected VoIP service. Moreover, the specific VoIP reporting obligations mentioned in the NPRM would not enable the Commission to accurately track the nationwide deployment and adoption of all VoIP services. For example, the Commission has recognized that many VoIP services are “fully portable,” so that “customers may use the service anywhere in world where they can find a broadband connection.”<sup>42</sup> In addition, many VoIP providers assign telephone numbers to customers that are “not necessarily tied to” the user's usual or *home* location.<sup>43</sup> As a result of these features,

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<sup>41</sup> See *Broadband Data NPRM*, ¶ 22.

<sup>42</sup> *In re Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, Memorandum Opinion and Order, 19 FCC Rcd 22404, ¶ 5 (2004).

<sup>43</sup> *Id.* ¶ 9.

many VoIP providers have “no means of directly or indirectly identifying the geographic location” of their customers when they place or receive calls.<sup>44</sup> The Commission has also recognized the integrated nature of VoIP service, which offers consumers both any-distance calling without distinguishing “local” and “long-distance” minutes of use.<sup>45</sup> Such services include the “inherent capability” for “subscribers to utilize multiple service features that access different website or IP addresses during the same communication session and to perform different types of communications simultaneously.”<sup>46</sup> “These functionalities in all their combinations,” the Commission stressed, “form an integrated communications service designed to overcome geography, not track it.”<sup>47</sup> As a result, it would make no sense to require VoIP providers to try to report at a state level.

Furthermore, these reporting obligations would capture only a small percentage of VoIP customers because providers of non-interconnected VoIP services, like Skype-In and Skype-Out, would not be required to report the number of customers they serve. Also, VoIP providers may not track the percentage of retail VoIP subscribers who are residential, as opposed to business, end users and therefore may not be able to report this information. Likewise, wholesale providers of VoIP service may lack the knowledge to report the number of subscribers that its resellers serve, especially if the wholesaler is required to report this data on a state-by-state basis. Accordingly, the Commission should not use Form 477 to collect additional information on VoIP subscribership.

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<sup>44</sup> *Id.* ¶¶ 23, 26-27.

<sup>45</sup> *See id.* ¶ 27.

<sup>46</sup> *Id.* ¶ 25.

<sup>47</sup> *Id.*

## CONCLUSION

The Commission should enhance its understanding of broadband availability and adoption by synthesizing the broadband data it currently collects with data from outside sources and by making limited changes to its own wireless broadband data collection requirements, but the Commission should not implement several of the more resource-intensive data reporting obligations proposed in the NPRM.

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