

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

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

**Comments of
Communications Workers of America**

Debbie Goldman
George Kohl
501 Third St. N.W.
Washington, D.C. 20001
(202) 434-1194 (phone)
(202) 434-1201 (fax)
dgoldman@cwa-union.org

June 15, 2007

The Communications Workers of America (CWA) submits these comments in response to the Notice of Proposed Rulemaking (NPRM) seeking comment on how the Commission can continue to acquire the information it needs to develop and maintain appropriate broadband policies.¹ CWA represents 700,000 employees in telecommunications, broadcasting, publishing, health care, manufacturing, airlines, higher education, state and local government, and other public and private sector organizations.

The Commission initiates this important proceeding at a critical juncture. The United States – the country that invented the Internet – has fallen to 15th or 16th or 20th (depending on the survey and ranking methodology) in the world in broadband adoption.² Americans pay more for slower speeds than people in other countries.³ Too many Americans, especially those in rural areas or low-income households, aren't connected at all.⁴ (*See* attachment CWA, *Speed Matters: Affordable High Speed Internet for All*.⁵) The United States is stuck with a 20th century Internet.

¹ *In the Matter of In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriberhip Data, and Development of Data on Interconnected Voice over Internet Protocol Subscriberhip*, Notice of Proposed Rulemaking, WC Docket No. 07-38, April 16, 2007 (rel.) (NPRM).

² The 2006 International Telecommunications Union (ITU) survey ranked the U.S. 16th in household broadband adoption, *See* ITU, World Telecommunications Database 2006 (available at <http://www.itu.int/osg/spu/newslog/ITUs+New+Broadband+Statistics+For+1+January+2005.aspx>). The 2005-6 ITU Digital Opportunity Index ranked the U.S. 20th in digital opportunity, a composite of 11 indicators including Internet access price, penetration, and advanced broadband technologies (available at http://www.itu.int/osg/spu/publications/worldinformationsociety/2007/WISR07_full-free.pdf). The Organization for Economic Cooperation and Development ranked the United States 15th among OECD countries in broadband adoption. *See* OECD survey available at http://www.oecd.org/document/7/0,3343,en_2649_34223_38446855_1_1_1_1,00.html). The reason for the difference between the ITU and OECD broadband penetration data is that the surveys include different countries.

³ In Japan, 80 percent of households can connect to a fiber network at a speed of 100 megabits per second (mbps). Daniel K. Correa, The Information Technology and Innovation Foundation, "Assessing Broadband in America: OECD and ITIF Broadband Rankings," April 2007 (available at <http://www.itif.org/files/BroadbandRankings.pdf>); Derek S. Turner, "Broadband Reality Check II", Aug. 2006 (available at <http://www.freepress.net/docs/bbrc2-final.pdf>).

⁴ According to the U.S. Government Accountability Office (GAO), two-thirds (62 percent) of Americans who earn

Unfortunately, we do not know the full extent of our problems because our data on high-speed broadband deployment, subscribership, speed, and price is so poor. Without adequate information, it is difficult to craft good policy solutions. So we continue to fall farther behind. This has serious implications for American competitiveness, job creation, and our ability to improve the quality of life for individuals, families, and communities through network-based solutions for health care, education, public safety, government service delivery, and civic participation.

The Commission seeks comments on a number of issues related to broadband deployment data collected on Form 477. CWA will focus its comments on three issues: first, improvements in the data collected on subscribership and infrastructure deployment; second, refinements in the speed tier reporting; and third, reporting on price.

Improvements in Form 477 Subscribership and Deployment Data. The Commission currently requires facilities-based providers of broadband connections to list, by state, those Zip Codes in which they have at least one broadband provider.⁶ There are several problems with this methodology. First, the methodology does not tell us the *number of broadband subscribers*, by

over \$100,000 a year get broadband, but only 11 percent of households that earn less than \$30,000 a year subscribe. Only one-quarter of middle-income families earning between \$30,000 and \$50,000 a year subscribe to broadband. The GAO also found a significant urban/rural gap. While 29 percent of urban households and 28 percent of rural households subscribe to broadband, only 17 percent of rural households do. Government Accountability Office, *Broadband Deployment Is Extensive throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas*, GAO-06-426 April 2006 (available at <http://www.gao.gov/new.items/d06426.pdf>) (“GAO Broadband Report”).

⁵ CWA, “Speed Matters: Affordable, High Speed Internet for All, 2006 (available at <http://files.cwa-union.org/speedmatters/SpeedMattersCWAPositionPaper.pdf>).

⁶ See *Local Competition and Broadband Reporting*, Report and Order, WC Docket No. 04-141, 19 FCC Rcd 22340 (2004) (“2004 Data Gathering Order”); *Local Competition and Broadband Reporting*, Report and Order, CC Docket No. 99-301, 15 FCC Rcd 7717 (2000) (“2000 Data Gathering Order”).

category of customer, in a zip code. Second, as the Commission notes, the zip code methodology does not provide the *level of detail* that policymakers need. In sparsely populated rural Zip Codes, the Form 477 methodology could mean that “a given provider has just one broadband subscriber who is located in a small town or at some other location...Broadband ‘availability’ could be non-existent for that carrier’s other customers located a few blocks or many miles away...”⁷ Third, as the Government Accountability Office (GAO) pointed out, the FCC’s Form 477 data collection tells us where high-speed Internet subscribers are served, not where providers have *deployed* broadband infrastructure. According to the GAO, this methodology does “not provide a highly accurate depiction of local deployment of broadband infrastructure for residential service, especially in rural areas.”⁸

To address these problems, CWA urges the Commission to adopt the following changes in Form 477. First, and most important, the Commission should require broadband providers to report the number of customers served by customer category (residential, small business, large business), as well as the number of homes “passed” by their broadband-enabled infrastructure in the Zip Code reporting area. This will correct the most glaring gap in the Form 477 methodology.

Second, the Commission should seriously consider requiring broadband providers to report the number of subscribers at the most detailed “zip plus four” geographic level, at least in more rural areas where a five-digit zip code covers a large territory.⁹ CWA shares the

⁷ NPRM, 10.

⁸ GAO Broadband Report, Executive Summary.

⁹ CWA, Speed Matters, 38; Broadband Reality Check II, 36-7.

Commission’s skepticism that analysis of subscriber counts at the 5-digit Zip code level may not “accurately depict broadband availability in a particular, localized areas within a Zip Code.”¹⁰

Third, the Commission should consider, possibly in collaboration with the Department of Commerce’s National Telecommunications and Information Administration (NTIA), collecting detailed broadband deployment information and developing an online map of broadband infrastructure, modeled after the ConnectKentucky broadband mapping program.

ConnectKentucky, a non-profit organization, in collaboration with the Kentucky Infrastructure Authority, the Commonwealth Office of Technology and private sector companies produced the first comprehensive GIS-based county-by-county inventory of existing broadband infrastructure and service availability. The map identifies the specific communities where additional efforts are required to stimulate broadband investment and allows for the coordination of investment decisions of state and local governments with economic development organizations and private sector companies.¹¹ Pending legislation in Congress as well as various state initiatives could facilitate a federal-state collaborative effort to create a broadband map of America.¹²

Speed Tiers. The Commission’s Form 477 currently collects subscriber numbers by provider technology for five speed tiers, although the Commission reports the speed tier data

¹⁰ NPRM, 14.

¹¹ For more information about ConnectKentucky, go to <http://www.connectkentucky.org>. See also Statement of Brian Mefford, CEO, Connected Nation, Inc. Before the Senate Committee on Commerce, Science, and Transportation Hearing on Communications, Broadband, and Competitiveness: How Does the U.S. Measure Up? April 24, 2007 (http://commerce.senate.gov/public/files/DC_Committeetestimony_04_23_07.pdf).

¹² S.1492, the Broadband Data Improvement Act, would create a \$40 million five-year program of grants to the states to be used, among other purposes, to develop a detailed statewide map of broadband infrastructure. See <http://www.thomas.gov/cgi-bin/thomas>. Several other states have announced plans to create statewide maps of broadband deployment, including Tennessee, southern Illinois, and Washington state. On ConnectTennessee, see http://www.knoxnews.com/kns/tech/article/0,1406,KNS_8976_5530634,00.html; on Illinois, see http://www.pjstar.com/stories/060407/REG_BDCSL5HS.045.php. CWA is collecting additional information on state programs, and will update the Commission as this becomes available.

only aggregated at the national level.¹³ Data collected at the local level is less extensive because, as noted above, providers are only required to report whether they have subscribers in a particular zip code. The Commission specifically asks whether it would be appropriate to split the first tier into two, with a lower tier spanning 200 kbps to 1 mbps and the next tier 1 mbps to 2.5 mbps transfer rate.

CWA supports splitting the first tier into two, with the lower band from 200 kbps to 1 mbps and the upper band from 1 to 2 (or 2.5) mbps. There is significant functional difference between 2.5 mbps and 200 kbps as well.¹⁴ At 200 kbps, it would take 17 hours to download a full-length movie, but at 2.5 mbps it would take about 100 minutes. Today, most DSL providers' low-level service starts at 768 kbps. Splitting the first tier at the 1 mbps transfer rate would in essence differentiate low-level from faster-speed DSL and cable modem service.

The Commission has requested whether it should automatically adjust upwards its existing speed tiers to reflect technological advances. Certainly, the Commission should adapt its speed band measures as the market and technology evolves. In particular, the Commission may want to consider in this proceeding splitting what is currently the second tier (2.5 mbps to 10 mbps) into two tiers. There is also a significant functional difference between 2.5 mbps and 10 mbps. The full-length movie that takes about 100 minutes to download at 2.5 mbps takes less than 25 minutes at 10 mbps.

¹³ The speed tiers are distinguished by the information transfer rate in the faster direction: 1) greater than 200 kbps and less than 2.5 mbps; 2) greater than or equal to 2.5 mbps and less than 10 mbps; 3) great than or equal to 10 mbps and less than 25 mbps; 4) great than or equal to 25 mbps and less than 100 mbps; and 5) greater than or equal to 100 mbps.

¹⁴ Comments of the Information Technology and Innovation Foundation, WC Docket No. 07-38 ("ITIF Comments").

Most important, CWA supports requiring broadband providers to report and the Commission to make publicly available information on the speed tiers at the state, and if feasible, at the zip code level.

Change the Commission Definition of “High Speed.” It is long past time to increase the Commission’s definition of “high speed.” The current Commission definition considers “high speed” services to be those with a transmission rate exceeding 200 kbps in one direction, and “advanced services” to be those with a transmission exceeding 200 kbps in both directions.¹⁵ As noted above, a transfer rate of 200 kbps in one direction is seriously out-of-date because it does not permit the transfer of video or most two-way interactive applications.

CWA recommends that the Commission immediately change the definition of “high speed” services to those with a transmission rate exceeding two mbps downstream and one mbps upstream. This would bring the U.S. definition of high-speed in line with other advanced nations, and have a greater relevance to the speed needed for actual applications.

Several years ago, the Canadian Broadband Task Force recommended that Canada adopt a functional definition of broadband described as “high-capacity, two-way link between end user and access network suppliers capable of supporting full-motion interactive video applications.” The Task Force noted that “a minimum symmetrical speed of 1.5 mbps per individual user is currently required to support these applications.”¹⁶ As a result of this recommendation, the Canadian Radio and Telecommunications Commission (CRTC) defined broadband at speeds

¹⁵ See FCC, Wireline Competition Bureau, “High Speed Access for Internet Services: Status as of June 30, 2006,” Jan. 2007.

¹⁶ The Task Force also noted that peer-to-peer file sharing and videoconferencing would require 4 to 6 mbps. Report of the National Broadband Task Force, “The New National Dream: Networking the Nation for (available at <http://broadband.gc.ca/pub/program/NBTF/broadband.pdf>).

faster than 1.5 mbps. (The CRTC defines “wideband” high-speed access services at speeds up to 1.5 mbps.)¹⁷

The Commission should follow Canada’s lead and increase its definition of “high speed” consistent with a functional definition that would support “full-motion interactive video applications” which today would require a minimum of 2 mbps downstream and 1 mbps upstream. The definition should evolve as technology and markets develop.

We want to emphasize that although we support an upward adjustment in the Commission definition of “high speed” and “advanced services,” we continue to support collecting data to measure subscribers and infrastructure deployment at 200 kbps. This is necessary to maintain good time-series data to measure progress in infrastructure deployment and adoption.

Measuring Speed. The United States trails other countries in the speed of our Internet connections. Internet access speed is another way of talking about broadband capacity. Speed of the last-mile Internet connection defines what is possible on the Internet. It determines whether we will have the 21st century networks we need to grow jobs and our economy, and whether we will be able to support innovations in telemedicine, education, public safety, and public services to improve our lives and communities. Most U.S. Internet connections today are not fast enough to permit interactive home-based medical monitoring, multi-media distance learning, or to send and receive data to run a home-based business, among other services.

Today, there is no federal agency that collects data on Internet connection speed. To fill that gap, CWA posted a speed test on a website, speedmatters.org. Between September 2006 and

¹⁷ CRTC Telecommunications Monitoring Report, “Status of Competition in Canadian Telecommunications

May 2007, more than 70,000 people visited speedmatters.org to test the speed of their Internet connection. The CWA speed test measured the last-mile speed of the Internet connection using a server that was geographically closest to the Internet user. (See <http://www.speedmatters.org>)

CWA has tabulated the results of the 70,000 speed tests on a state-by-state basis. CWA believes that this is the first comprehensive tabulation of Internet speeds in all 50 states and the District of Columbia. Because the speed testers were self-selected, we make no claims to a representative sample. Most of the speed testers used either a DSL or a cable modem connection. In fact, one of the limitations of the speed tests is the scarcity of tests conducted by dial-up Internet users. We speculate that dial-up users did not take the test because it simply took too long on their slow Internet connections. Somewhere between 30 to 40 percent of Americans still connect to the Internet with a dial-up connection.¹⁸ So the median speeds of those who visited speedmatters.org are actually higher than if dial-up Internet users had chosen to participate in the survey. In other words, the dismal statistics paint a rosier picture than the reality.

The median download speed of the 70,000 Internet users who took the speed test was 1.9 mbps. This compares to an average download speed of 61 mbps in Japan, 45 mbps in South Korea, 18 mbps in Sweden, 17 mbps in France, and 7 mbps in Canada. Median upload speed was 371 kbps, far below what is necessary for interactive medical monitoring or videoconferencing. (See attachment, CWA SpeedMatters.org Speed Test Results for state-by-state results.)

Markets: Deployment/Accessibility of Advanced Telecommunications Infrastructure and Services,” July 2006 (available at <http://www.crtc.gc.ca/eng/publications/reports/PolicyMonitoring/2006/tmr2006.pdf>).

¹⁸ The Pew Internet and American Life 2006 survey found that 40 percent of Americans connected to the Internet through a dial-up connection (Pew Internet and American Life, Home Broadband Adoption: 2006 available at http://www.pewinternet.org/pdfs/PIP_Broadband_trends2006.pdf). A March 2007 survey by Leichtman Research found that 28% of U.S. homes with an Internet connection used a dial-up connection (available at <http://www.leichtmanresearch.com/press/060707release.html>).

In comments already filed in this proceeding, the Information Technology and Innovation Foundation (ITIF) suggests the Commission consider such an open-source model to obtain penetration, speed and price data in a bottom-up fashion. The ITIF references the CWA speedmatters.org speed test as an example of an automated speed test. While CWA certainly appreciates the recognition of our speed test and believes that it is the most comprehensive national and state-by-state data currently available in the United States, we also must emphasize that there are limitations to a purely voluntary open source model. In order to obtain a comprehensive and representative sample with detailed information through an open source model, professional statisticians must develop an appropriate methodology and resources must be devoted to outreach to users.

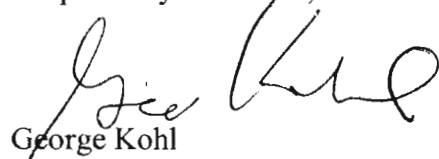
Price. The Commission also seeks comment on methods to collect price information. The Commission should require broadband providers to report the actual price used to market different speed tiers of service, and to provide the Commission with a price per bit at the most granular level in which they market their product.

Conclusion

The United States alone among the advanced nations of the world has no national high-speed broadband policy to ensure that all Americans have access to high-speed Internet services. In order to develop a coherent and effective national high-speed broadband policy, we must have good data. We need to know where infrastructure is deployed, adoption rates, speeds, and prices at a state and local level. It is long past time for the Commission to improve its high-speed broadband data collection, and to upgrade its definition of “high speed” services. Good data

good data. We need to know where infrastructure is deployed, adoption rates, speeds, and prices at a state and local level. It is long past time for the Commission to improve its high-speed broadband data collection, and to upgrade its definition of “high speed” services. Good data collection is an essential step toward making sure that every American home and business has access to affordable, world-class Internet services.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "George Kohl". The signature is written in a cursive style with a large initial "G" and "K".

George Kohl
Senior Director – Collective Bargaining and Technology
Communications Workers of America

June 15, 2007

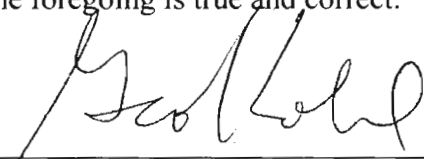
DECLARATION OF DEBBIE GOLDMAN

My name is George Kohl. I am Senior Director – Collective Bargaining and Technology with the Communications Workers of America. My business address is 501 Third Street N.W., Washington, D.C. 2001.

The Communications Workers of America is a labor organization representing 700,000 workers, half of whom work in the communications industry, including wireline, wireless, Internet access, cable, broadcasting, and publishing.

I am familiar with the contents of the foregoing Comments. The factual assertions made in the petition are true to the best of my knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on June 15, 2007.



George Kohl