

From: [Zane Farr](#)
To: [BOCrfc2015](#)
Subject: Communications Workers of America Comments to White House Broadband Opportunity Council
Date: Wednesday, June 10, 2015 1:48:07 PM
Attachments: [CWA Comments to the White House Broadband Opportunity Council.pdf](#)

To Whom It May Concern:

Please find the Communications Workers of America's (CWA) comments attached to this email. They are in reference to the Request for Comment from your office on April 28th. I am submitting these comments on behalf of Debbie Goldman, Telecommunications Policy Director at CWA. Please let me know if there are any problems with the submission.

Thank you,

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CWA Comments to the Broadband Opportunity Council

June 10, 2015

The combined trends of increased inequality and decreasing mobility pose a fundamental threat to the American Dream, our way of life, and what we stand for around the globe. And it is not simply a moral claim that I'm making here. There are practical consequences to rising inequality and reduced mobility.

-President Obama, December 4, 2013

Speed Matters: Affordable, High-Speed Broadband for all Americans

High speed broadband is the critical infrastructure of the 21st century. High-speed broadband is essential to stimulate economic growth, job creation, improvements in education, healthcare, environmental protection, public safety, the provision of public services, civic discourse and political participation, and to connect people with family and friends and the unlimited information available on the Internet.

Since 2007, CWA's Speed Matters campaign has promoted public and private initiatives to promote affordable, quality high-speed broadband for all Americans.¹ CWA represents 700,000 workers in communications, media, airlines, manufacturing, and public service. About half of our members – about 350,000 workers – are employed in all segments of the communications industry, including wired and wireless voice, data, and video communications, broadcasting, and the production and dissemination of news and content. CWA members and their families support broadband policies designed to ensure that every American, regardless of income, race, or geography, has access to high-quality, affordable high-speed broadband services.

There has been considerable progress in recent years spurring hundreds of billions of dollars in wired and wireless high-speed broadband networks, and promoting broadband adoption programs that close the gap between the digital haves and have-nots. But significant gaps remain —especially with respect to geography and income. The Federal Communications Commission (FCC) has concluded that broadband is not being deployed in a reasonable and timely manner.² According to the FCC, about 55 million Americans lack access to high-speed broadband networks (using the Commission's 25 Mbps downstream/3 Mbps upstream broadband definition); over half of all rural Americans lack access to 25/3 Mbps broadband service; and more than 55 percent of Americans lack competitive choice for 25/3 Mbps broadband service.³ Moreover, the broadband adoption rates among low-income Americans continue to lag behind those of other income groups. While 95 percent of Americans with incomes over \$150,000 have broadband access at home, fewer than half (48 percent) of those earning less than \$25,000 have service at home.⁴

¹ See <http://www.speedmatters.org>

² FCC, *2015 Broadband Progress Report and Notice of Inquiry of Immediate Action to Accelerate Deployment*, GN Docket No. 14-126, Feb. 4, 2015 (rel).

³ FCC News Release, "FCC Finds U.S. Broadband Deployment Not Keeping Pace," Jan. 29, 2015; FCC Fact Sheet, "FCC Chairman Tom Wheeler: More Competition Needed in High-Speed Broadband and Marketplace," Sept. 4, 2014. See also David N. Beede, U.S. Department of Commerce, Economics and Statistics Administration, "Competition Among U.S. Broadband Providers," OCE Issue Brief #01-14, Dec. 2014.

⁴ FCC, "Chairman Wheeler Seeks Comment on Modernizing Lifeline to Make 21st Century Broadband Affordable for Low-Income Households," May 28, 2015.

Taking Action: The Broadband Opportunity Council

CWA applauds the Broadband Opportunity Council as it seeks to leverage federal programs and policies to close these gaps and bring the benefits of affordable high-speed broadband to all. CWA strongly supports the efforts of this Council and the Obama Administration to integrate broadband expansion and adoption into other federal programs and initiatives. Certainly, the FCC's 2010 National Broadband Plan highlights many concrete ways in which the federal government can use federal dollars and policy initiatives to expand broadband deployment and adoption while serving vital national purposes.⁵ Important initiatives include policies to incentivize high-speed broadband deployment and adoption in public housing; initiatives that build on the expanded E-rate program to spur fiber deployment to schools and libraries; policies that incorporate broadband solutions into environmental protection and energy conservation programs; full funding for implementation of a nationwide, interoperable public safety network as well as other public safety purposes; promoting telehealth solutions consistent with provision of quality health care; and improving public participation in government through online tools, among many others.

The Broadband Opportunity Council can also take action to address the significant gap in broadband adoption among low-income Americans. We cannot have a nation of economic opportunity for all when some school children must do their homework using cell phones connected to Wi-Fi networks at McDonald's or sitting outside a library after it closes in the evening. We live in a world in which people must apply for jobs or public services online, yet almost half (48 percent) of low-income families do not have Internet access at home. We know the route to closing the broadband adoption gap: expanding Lifeline low-income subsidies to broadband to make the cost of broadband more affordable; programs to provide low-cost computers and tablets to low-income families; and digital literacy programs rooted in the needs of families and communities. The richest nation in the world must take bold action to ensure that every person, regardless of income or geography, has affordable Internet access and the computing device needed to participate in vital online activities. A smartphone is not enough.

The Broadband Opportunity Council should recognize that we need robust wired and wireless networks. Wireless solutions are not sufficient to meet the demands for two-way transmission of video- and data-intensive online communications. Certainly, this is true for businesses, schools, libraries, health care institutions, universities, and government agencies – but it is also true today for households with multiple devices simultaneously connected to the Internet. Administration policies must drive expansion of high-speed wired networks to community institutions, businesses, and homes across the nation.

The Broadband Opportunity Council should also recognize the limits of municipal broadband as a policy solution driving competition and investment in network expansion. The small numbers of cities and towns that have successfully deployed municipal broadband networks have unique characteristics that cannot be generalized across the nation. Typically, successful municipal broadband deployment takes place in cities with an existing municipal electric utility that expands its utility-related broadband network, customer relationships, and customer care operations to provide retail broadband services. There are all too many examples of failed municipal broadband projects that squandered taxpayer money under heavy debt and poor management. (See Attachment B) As an alternative, public-private partnerships that leverage public resources to lower the cost of broadband deployment have a proven track record of success. The North Carolina Next Generation Network, involving six cities and four universities, working together to stimulate deployment of gigabit networks is an example of such a public-private partnership.⁶

⁵ FCC, *Connecting America: The National Broadband Plan*, 2010.

⁶ For more information about the North Carolina Next Generation Network, see <http://www.ncngn.net/> and Debbie Goldman and Jennifer Tuttle, "Municipal Fiber and Public-Private Partnerships for Fiber Deployment: A Summary of the Evidence," Jan. 13, 2015, appended to these comments as Attachment B.

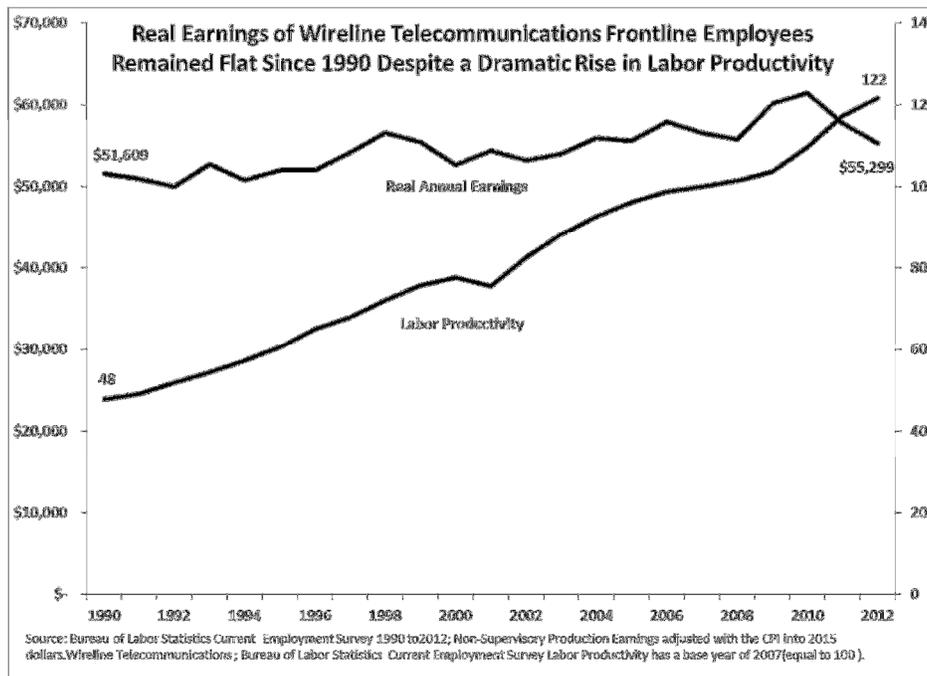
Supporting Good Jobs in the Telecommunications Industry

In addition to support for policy initiatives that leverage federal programs and federal dollars to promote broadband expansion and adoption, the Broadband Opportunity Council should also ensure that federal policy promotes the expansion of good jobs in the telecommunications industry, particularly among frontline workers who build, maintain, and service the networks.⁷

Historically, workers in the telecommunications industry have earned good wages and benefits. In this declining cost industry with technology constantly driving productivity improvements, workers' earnings grew as productivity grew. This was largely due to the fact that telecommunications was a highly unionized industry. Through collective bargaining, workers were able to negotiate a fair share of the productivity improvements that their work generated.

But with federal policy and technological convergence driving competition, new entrants in the telecommunications sector have chosen to compete by driving down labor costs and taking aggressive action to maintain a union-free workforce. As a result, just over one out of every four (28 percent) telecommunications workers has union representation. This figure includes all non-supervisory telecommunications workers, in wireless and wireline (cable and telco) sectors.⁸

For the 650,000 non-supervisory workers in the wireline and wireless telecommunications industry, the decline in union bargaining power means that most telecommunications workers over the past two decades have not benefited from the increased productivity that their work creates. Since the 1990, non-supervisory telecommunications workers' earnings have remained almost flat, increasing at an annualized rate of 0.3 percent. Over the same period, productivity in the telecom sector increased at an average annual rate of three percent. Over the 22 year period between 1990 and 2012, telecom productivity increase 66 percent while non-supervisory telecom workers' earnings went up only seven percent. (See Chart below.)



⁷ The Internet economy consists of two major sectors: 1) network companies such as AT&T, Verizon, and Comcast; and 2) online applications companies such as Google, Facebook, and Netflix. The 17 largest network companies employ about 870,000 employees, more than three times the approximately 280,000 employees at the 19 largest online applications companies. Moreover, network companies' capital expenditures of \$193 billion in the 2010-2013 period were five times the \$37 billion in capital expenditures of the applications companies over the same time period. See CWA, "U.S. Broadband Industry, 2014" appended as Attachment C.

⁸ CWA Membership Development Reports, Bureau of Labor Statistics/Census Bureau, Current Population Survey, 2014.

President Obama has highlighted the fundamental threat that growing inequality poses to the American dream, our way of life, and our standing around the world.⁹ As many scholars have shown, a significant reason for the growth of inequality in the United States – the widest gap in over 100 years – is due to the decline in union density and worker bargaining power.¹⁰ Telecommunications now exhibits trends of stagnant earnings that characterize labor trends in the larger U.S. economy. This development is not good for workers in the industry, the larger economy, and our democracy.

Therefore, as the Broadband Opportunity Council evaluates policies to integrate broadband expansion and adoption into the provision and improvement of public programs, the Council should also consider the impact of communications policies and programs on the telecommunications workforce. To be sure, federal communications policy must not favor companies that systematically violate workers' rights.

Earlier this year, the National Labor Relations Board found T-Mobile US guilty of nationwide policies that systematically denied workers their legally protected democratic rights at work (See Attachment A). Federal communications policy should not reward companies like T-Mobile that have a proven track record of trampling on workers' rights and violation of our nation's labor laws.

Conclusion

CWA commends efforts by the Broadband Opportunity Council to close the broadband gap to ensure that all Americans have access to the limitless benefits of the Internet. This is essential not only to harness the power of digital technologies to improve the provision of vital public services, but also for our economy and our democracy.

At the same time, the Obama Administration should incentivize high road employment practices and respect for workers' rights in federal procurement policy and other initiatives designed to promote high-speed affordable broadband for all Americans. The Broadband Opportunity Council must ensure that federal policy does not provide favorable treatment to companies like T-Mobile US that violate workers' legal rights at work.

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⁹ Remarks by the President on Economic Mobility, December 4, 2013, available at <https://www.whitehouse.gov/the-press-office/2013/12/04/remarks-president-economic-mobility>

¹⁰ See for example Bruce Western and Jake Rosenfield, Jake. "Union Decline Accounts for Much of the Rise in Wage Inequality," *American Sociological Review*, August 2011.

Attachment A



For release March 19, 2015

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Judge Finds T-Mobile US Guilty of Maintaining Illegal Corporate Policies Against Workers Across the Country

Judge Orders Policies Rescinded; T-Mobile US Must Advise Employees that the Company Has Violated Federal Labor Law

Washington, D.C. -- A judge at the National Labor Relations Board has found T-Mobile US guilty of engaging in nationwide labor law violations against workers. The unprecedented ruling comes following a rare move by the NLRB consolidating multiple complaints against T-Mobile US for illegal actions and policies in Albuquerque, N.M.; Wichita, Kans.; Charleston, S.C., and New York City.

At issue were illegal corporate nationwide policies that block workers from organizing or even talking to each other about problems at work. Workers throughout the T-Mobile US system were subjected to and effectively silenced by these illegal policies; the judge's order to rescind them covers 40,000 workers.

Coming on the heels of repeated complaints issued by the NLRB against T-Mobile US and its labor practices, the ruling shines a light on how management's efforts to suppress workers' organizing activity has been supported by wide-ranging, unlawful corporate policies issued from the highest levels of the company. Even while this trial was underway, additional complaints against the company have issued from the NLRB. Another NLRB trial will begin in June in Charleston, South Carolina, to hear yet more cases of T-Mobile US's unlawful suppression of workers' rights, and other charges and complaints continue to pile up.

The decision by Judge Christine Dibble focused on T-Mobile US's illegal employment policies and restrictions that prohibited workers from discussing wages with each other or criticizing working conditions or seeking out assistance to blow the whistle on unlawful behavior.

Over and over again, the decision finds that the corporate policies "would chill employees in the exercise of their...rights" or would be construed "as restricting [an employee's] rights to engage in protected concerted activities, including unionizing efforts." Judge Dibble found that T-Mobile US's Wage and Hour Complaint Procedure, for example, "tends to inhibit employees from banding together." She writes that the corporate procedure's requirement that an employee notify management of a wage issue first, "in combination with the threat of discipline for failing to adhere to the rule, would 'reasonably tend to inhibit employees from bringing wage-related complaints to, and seeking redress from, entities other than the Respondent, and restrains the employees' ...rights to engage in concerted activities for collective bargaining or other mutual aid or protection."

According to the ruling, T-Mobile US's email policy and various confidentiality policies violate the law by restricting employees' ability to disclose or discuss basic workplace issues, such as their wages. Similarly, Judge Dibble has ruled that the company's policy restricting employees' communications with the media is illegal, as it prohibits employees from speaking out on inquiries about wages or other conditions of employment. In all, Judge Dibble found that 11 of the 13 corporate policies or provisions at issue in the case are illegal.

CWA President Larry Cohen said, "This decision exposes the deliberate campaign by T-Mobile US management to break the law systematically and on a nationwide scale, blocking workers from exercising their right to organize and bargain collectively. This behavior can only be changed by a nationwide remedy to restore workers' rights. Deutsche

Telekom, the principal owner of T-Mobile US, has claimed that its U.S. subsidiary follows the law. Now we have the official word: T-Mobile US is a lawbreaker. Bonn, the headquarters of DT, no longer can hide behind the false statements made by T-Mobile US executives. These behaviors would be almost unimaginable in Germany or any other democracy in the world.”

Rep. Mark Pocan (D-Wis.), a union member, small business owner and a champion of working families, said, “T-Mobile employees have come to Capitol Hill to share their stories of fear and intimidation and efforts to block workers from organizing. These workers have had to put up with an outright hostile environment in violation of their basic constitutional rights. Today’s decision is a huge win for every hardworking American who is fighting for their right to organize and demand better wages and more job security.”

The ruling was preceded by years of federal complaints against T-Mobile US for unlawful labor practices around the country. Those complaints, which have covered all manner of violations, from firing union supporters to illegally restricting employees’ ability to communicate with one another, were often brought to the cusp of trial and then settled by T-Mobile US, which has paid tens of thousands of dollars to avoid a judge’s guilty finding. Today’s merit finding marks a turning point in efforts to effectively enforce US labor law at T-Mobile US.

Judge Dibble’s decision addresses written policies that T-Mobile US disseminated to employees and managers nationwide – policies that invariably reinforced a management culture, reflected in complaint after complaint, of shutting down workers who attempted to speak out for fairness on the job.

“We are happy and relieved,” said Carolina Figueroa, T-Mobile US call center worker from Albuquerque. “We are finally being heard. My coworkers and I at T-Mobile US will have the right to speak out against unfair treatment and should not be muzzled or retaliated against - and with today’s decision, the company has to declare this to all of its employees nationwide.”

Adrian Dominguez works at the Metro PCS-T-Mobile US retail store in New York City. “Now that we have a union we aren’t scared to talk about our working conditions at work. I am hopeful that my colleagues across the country will realize that the law protects their rights to discuss the benefits of joining together into a union, now that the judge has found T-Mobile US guilty of preventing workers from talking about their working conditions.”

Josh Coleman was a top-achieving customer service representative in Wichita when he was fired by T-Mobile US for mobilizing his co-workers for union representation. “Through repeated team meetings and written policy, T-Mobile US unlawfully silenced employees and created a culture of fear to stifle communication. I hope that now thousands of my T-Mobile US co-workers will know they can come out of the shadows and build the union that so many of us want.”

T-Mobile US workers and their colleagues at T-Mobile in Germany together have built TU, an organization that represents them. Thousands of German workers, members of the 2 million member union ver.di, have formed city-to-city partnerships with T-Mobile US workers, and together are pushing Deutsche Telekom to ensure that U.S. workers can bargain collectively, just as telecom workers in Germany do.

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Attachment B

Municipal Fiber Networks and Public Private Partnerships for Fiber Deployment:

A Summary of the Evidence

Jennifer Tuttle and Debbie Goldman
Communications Workers of America
Jan. 13, 2015

Introduction

Access to high-speed communications networks is an essential condition for full participation in modern society. Commerce, jobs, healthcare, public safety, education, energy conservation, personal communication, and entertainment all depend on reliable, fast internet connections. High-speed broadband has become an essential service. But three decades of telecommunications deregulation have left policymakers with few tools to require universal deployment of affordable high-speed networks to all communities. As a result, tens of millions of Americans do not have affordable access to truly high-speed advanced communications networks (greater than 25 Mbps download). Tens of millions more lack competitive choice for high-speed broadband. In all too many communities, cable is the only option for high-speed broadband service. Without competition or regulatory oversight, monopoly cable charges high prices, delivers poor service, has few incentives to invest in new services and technology, and displaces good, union jobs with lower-wage, often contract labor employment.

These market failures have led many communities to consider building and operating their own broadband networks. Unfortunately, most publicly-owned municipal networks have failed. The notable exception is in Chattanooga, TN, but its unusual success appears to be linked to two unique factors: the existence of a municipal electric utility and a significant amount of federal recovery funding that was available when the city was deploying its municipal fiber network. In the absence of those factors, cities like Syracuse are not likely to be able to replicate the Chattanooga success. Many other communities that deployed municipal fiber networks – most notably Burlington VT and Provo UT -- have met with failure and were saddled with massive debt and unhappy constituents. Provo sold its municipal network to Google for \$1. Other communities that considered municipal fiber networks – such as Seattle WA – discovered that financial, managerial, and operational issues presented insurmountable barriers to an initial vision of municipally-owned and operated fiber networks. While municipal fiber advocates claim many successful examples, in fact, most of the examples they cite are owned and operated by a municipal utility, based in a small city, and often limited to networks connecting business customers and office parks, not residential customers.

In sum, there are simply no models of successful municipal ownership and operation of a fiber network in a large city like Syracuse with no pre-existing publicly-owned utility. What then is a city like Syracuse to do in the face of Verizon's refusal to build FiOS and Time Warner's underinvestment in a first-class broadband network?

CWA believes that the best option, of course, would be for incumbent providers to offer fiber-based Internet connectivity universally. It does not serve the public interest to allow incumbent carriers to abdicate their responsibilities in the race for ever-increasing shareholder value. Cities should continue to pressure the Governor and the PSC to examine the limits of deregulation and take action to correct systemic problems.

But where incumbent providers refuse to build high-speed fiber networks, CWA believes that municipal leaders might consider creating a public-private partnership in which local and regional elected officials, key institutions such as universities, hospitals, and businesses, and other stakeholders work to create a political

and economic environment for private investment in high-speed networks. Any such project should stipulate a Project Labor Agreement and work closely with organized labor to ensure the work is of the highest standards and returns the greatest value to the community.

Kansas City used this model to win the Google Fiber bid from among 1,100 other cities (absent a Project Labor Agreement). And most recently, the North Carolina Next Generation Network (NCNGN) successfully attracted a commitment by AT&T – a union employer -- to build all-fiber networks to six North Carolina communities. This model is one that communities across Upstate New York might use to bring state-of-the-art broadband service to underserved communities.

The recent announcement by the Cuomo Administration that \$500 million will be made available for broadband build-out in Upstate New York is a sign that the Governor recognizes that the success of his ambitious economic development agenda may rest on the backbone of a fiber network. There is now an opportunity in New York State to use public pressure and investment to work with private entities that have the operational and managerial expertise, the skilled workforce, and the financial strength for the build-out, maintenance, and provision of customer service to bring fiber to homes, businesses, and community institutions in underserved upstate cities.

The State of Broadband in Upstate New York

Most residents in Upstate New York have access to two wireline broadband providers, Time Warner Cable, which is seeking to merge with Comcast, and Verizon. These two companies are making record profits but refuse to invest in critical infrastructure.

- **Time Warner Cable** offers broadband packages delivering speeds of 15, 20, and 100 Mbps.¹ Its TWCMaxx digital service offers speeds up to 300 Mbps in NY City, Los Angeles, and Austin. Time Warner earned \$3.4 billion in operating income in the first nine months of 2014,² yet has won the badge of distinction as the most hated company in America, according to the American Customer Satisfaction Index.³ Time Warner has 11 million broadband customers. Comcast is seeking regulatory approval to buy Time Warner, and at present, Comcast is dismissing the demands of New York regulators and advocates that it invest heavily in upgrading Time Warner's infrastructure as a condition of state approval of the merger.
- **Verizon** steadfastly refuses to bring FiOS, its state-of-the-art fiber-optic network offering near limitless upload and download speeds, to densely populated urban communities upstate. Rather, Verizon has chosen to build FiOS in wealthier suburbs surrounding Syracuse, Albany, and Buffalo and in New York City. Verizon's DSL is offered on a bundled basis in non-FiOS cities, at speeds up to 15 Mbps.⁴ Verizon reported \$14.1 billion in profit in the first nine months of 2014.⁵ Verizon currently passes 16.5 million homes with its fiber network, with 6.5 million broadband and 5.5 million video subscribers,

¹ Time Warner Cable website, visited Jan. 12, 2015.

² Time Warner Cable SEC Form 10Q for quarter ending Sept. 20, 2014.

³ American ISPs are now hated more than the Airlines. May 21, 2013. Brad Reed. <http://bgr.com/2013/05/21/american-isp-customer-satisfaction-rankings/>

⁴ Verizon website, visited Jan. 12, 2015.

⁵ Verizon SEC Form 10Q for quarter ending Sept. 30, 2014.

representing penetration rates of 39 percent for broadband and 33 percent for video. Verizon has 2.7 million DSL customers across its footprint but no longer sells stand-alone DSL.⁶ FiOS is a profitable business that successfully competes with cable.

While the United States and New York lag behind the rest of the world in high-speed internet, with limited exception, there are no public resources available to fund fiber networks. Federal and NY state regulatory bodies have failed to ensure universal, affordable, quality high-speed networks.

- **Telecommunications.** The New York Public Service Law requires the Public Service Commission to use its statutory powers to administer the state's telecommunications system with the goal of achieving universal, affordable, high quality and technologically advanced service. Yet, Commission policy adopted over 20 years ago relies on competition rather than regulation to meet its statutory obligations. Competition drives investment to higher income, more profitable areas, leaving upstate New York cities and rural New York behind. Clearly, the experiment in telecom deregulation has failed.
- **Video/Cable.** Municipalities regulate video (cable) through the franchising process. Local franchising authorities have historically had limited leverage to mandate investment by the monopoly cable company. As a result, in many places Time Warner Cable has not yet invested in digital networks with truly high-speed capabilities. Comcast at this time is resisting pressure from regulators and advocates to upgrade Time Warner's network as a condition of its proposed merger with Time Warner.

Municipal Fiber Networks

By one count, there are 143 wireline municipal broadband networks in the United States. Most are owned and operated by municipally-owned electric utilities, operate in small cities or towns, and more than one-third (54) serve business customers only.⁷ There are only a small number of solid success stories, while most ventures have resulted in failure and squandered public dollars.

Policymakers considering municipal fiber must recognize that running a telecommunications network is a business, not a community service or a one-time investment. The operator will need to become expert in financing, construction, system maintenance, content delivery, customer service, rate structures, the rapidly evolving field of telecommunications technology, and marketing of the network and product. The network operator will need to secure capital for the build and develop an operational model that includes financing for network upgrades, system maintenance, and operations. There are lessons to be learned from the unique circumstances that led to success in Chattanooga TN, as well as the failure of what began as promising projects but ultimately cost taxpayers millions of dollars in Burlington VT, Provo UT, and the Utah UTOPIA Project.

- **Chattanooga TN**, with a population of 170,000, is considered the municipal fiber poster child for success. Its unusual success appears to be linked to two unique factors: the existence of a municipal electric utility (dating back to the 1935 Tennessee Valley Authority) and a significant amount of federal recovery funding. Having built a fiber network to connect its electrical assets, the city's municipally-

⁶ Verizon Financial and Operating Information, Sept. 20, 2014.

⁷ Masha Zager, "Number of Community FTTP networks Reaches 143," Aug./Sept. 2014 (http://www.bbcmag.com/2014mags/Aug_Sep/BBC_Aug14_CommunityNetworks.pdf)

owned electric utility – Electric Power Board (EPB) -- received authority from the city to expand into commercial provision of broadband service to retail customers. The expansion of EPB's above-ground fiber network was financed with a \$50 million loan from the utility's electric division, \$111 million in federal recovery money to build a smart grid system, and \$162 million in local revenue bonds. The network is now fully operational, earning a profit, and available to 170,000 homes, schools, and businesses. As of Sept. 2013, EPB Fiber had over 55,000 customers. Monthly subscriptions range from \$58 per month for basic, standalone Internet access with speeds of 100 Mbps to \$150 per month for a gigabit connection (1,000 Mbps), an unlimited phone plan, and a premium television package.⁸

- **Burlington VT** is the poster child for a failed municipal fiber network. Burlington Telecom's all-fiber network is mired in debt, subject to lengthy legal battles, has reneged on its obligation to serve all residents, and is up for sale. The system never turned a profit, and ultimately defaulted on a \$33.5 million loan from Citi Financial. As of this writing, Citi owns BT's assets. Moreover, when recession hit in 2008, Burlington Telecom turned to the city for \$10 million to cover operating expenses, and has faced lengthy legal battles over the failure to meet deadlines in returning the funds to the city.⁹ Subscribers continue to leave the system.
- **Provo UT**, with a population of 116,000, is another prominent example of a failed publicly-owned fiber network. The city was never able to turn its \$40 million investment into a profitable enterprise, and in 2013 sold the network to Google for \$1.¹⁰
- **UTOPIA**, a consortium of 15 Utah cities with a total population of 526,000, is yet another example of a failed municipal fiber network. Utah cities built the system with city bond financing, federal Rural Utilities Service loans, and federal Recovery Act funding. The total cost of the network is estimated at \$500 million, but due to construction delays and low subscribership, UTOPIA remains mired in debt with net assets of negative \$120 million. An Australian private equity company, Macquarie Capital, is in the process of buying UTOPIA, but proposes to impose an \$18 to \$20 monthly utility fee on residents of cities that opt into the plan.¹¹

The evidence is clear. Publicly-owned and operated fiber systems pose enormous risks that cities can ill-afford. However, where incumbent telecommunications and cable companies have failed to invest in fiber networks, local and regional governments are exploring public-private partnerships that create an economic and political environment to encourage private investment in fiber systems.

⁸ Charles M. Davidson and Michael J. Santorelli, *Understanding the Debate over Government-Owned Broadband Networks: Context, Lessons Learned, and a Way Forward for Policy Makers*, New York Law School, June 2014 (available at <http://www.nyls.edu/advanced-communications-law-and-policy-institute/wp-content/uploads/sites/169/2013/08/ACLP-Government-Owned-Broadband-Networks-FINAL-June-2014.pdf>). See also Christopher Mitchell, *Broadband at the Speed of Light*, Institute for Local Self Reliance, April 2012 (available at <http://ilsr.org/broadband-speed-light/>)

⁹ Christopher Mitchell, *Learning from Burlington Telecom: Some Lessons for Community Networks*, Aug. 2011 (available at <http://www.muninetworks.org/sites/www.muninetworks.org/files/bt-lessons-learned.pdf>). See also Bruce Parker, "City owned telecom drains VT taxpayers of millions, bails on access pledge," *Vermont Watchdog.org*, July 10, 2014 (available at <http://watchdog.org/158814/telecom-drains-taxpayers/>).

¹⁰ *Understanding the Debate over Government-Owned Broadband Networks: Context, Lessons Learned, and a Way Forward for Policy Makers*, pp. 83-87.

¹¹ *Id.*, pp. 75-79.

Public-Private Partnerships to Incent Private Investment in Fiber Networks

When 1,100 cities responded to Google's Request for Proposal to build an all fiber network, it became crystal clear that city leaders are eager to work with a private company to encourage investment in a fiber network to spur economic growth and social welfare. The deal that Google struck with Kansas City opened the door to a new model of public-private partnership that potentially changes the economics of an all-fiber build. The Google threat also spurred incumbent providers, most notably AT&T and CenturyLink, to announce significant investment in all-fiber networks. In April 2014, AT&T announced plans to build all-fiber networks in up to 100 cities.¹² In August, 2014, CenturyLink announced plans to build all-fiber networks in 13 cities.¹³ AT&T and CenturyLink have already begun the fiber build in some of these markets.

In Kansas City, the city provided enormous assistance to Google Fiber. The city expedited permitting; designated staff assigned to help Google; allowed Google to lay its fiber, run cabling up buildings and aerial structures, and install fiber within existing city conduit and sewer systems; and provided assistance in gaining access to poles and private rights-of-way. Most significant, it allowed Google to build its network to those neighborhoods in which consumers signed up for Google service. In other words, Kansas City did not impose a deployment timetable to wire the entire city.

Gig.U, an organization that fosters partnerships among municipalities, universities, and businesses to spur fiber deployment, has summarized the steps that cities can take to foster public-private partnerships for fiber deployment.¹⁴ These include:

- *Asset utilization and improvement.* Inventory assets that can affect deployment, including rights of ways, pole access and fees, conduit access, and building access. Make data available regarding conduit, ducts, and other rights-of-way, as well as government-controlled facilities.
- *Regulatory flexibility to accommodate new business models.* Google Fiber insisted that Kansas City allow it to deploy its network only where consumers had indicated an interest in subscribing to the system. According to Gig.U., the result was that 95 percent of Kansas City eventually qualified under Google's conditions. This model lowered Google's cost by reducing risk and facilitating build on a neighborhood-by-neighborhood rather than house by house basis. Kansas City also facilitated expedited permitting and inspections.
- *Demand Aggregation.* When city agencies, universities, health care facilities, schools, major business interests, and other community institutions come together, this makes the economics of a fiber deployment work better.

¹² AT&T Press Release, "AT&T Eyes 100 U.S. Cities and Municipalities for UltraFast Fiber Network," April 21, 2014 (available at http://about.att.com/story/att_eyes_100_u_s_cities_and_municipalities_for_its_ultra_fast_fiber_network.html#)

¹³ Jeffrey Baumgartner, "CenturyLink Pushes 1 Gig Expansion," Multi-Channel News, Aug. 5, 2014 (<http://www.multichannel.com/news/technology/centurylink-pushes-1-gig-expansion/382971>).

¹⁴ "From Gigabit Testbeds to the 'Game of Gigs:' Third Annual Report of Gig.U, August 2014 (available at <http://www.gig-u.org/cms/assets/uploads/2012/12/81714-Gig.U-Final-Report-Draft-1.pdf>).

North Carolina Next Generation Network

North Carolina Next Generation Network (NCNGN) is a successful example of a regional initiative focused on stimulating the deployment of next generation broadband networks in North Carolina. Six North Carolina municipalities (Chapel Hill, Durham, Raleigh, Winston-Salem, Cary, and Carrboro) and four leading research universities (Duke, NC State, UNC Chapel Hill, and Wake Forest/Wake Forest Baptist Medical Center) are working with businesses and the local Chambers of Commerce in the Research Triangle and Piedmont regions to encourage private sector providers to deliver ultra-fast bandwidth at highly affordable prices.¹⁵

In February 2013, NCNGN issued an RFP inviting private companies to build and operate their desired network and by the April deadline, eight companies responded.

NCNGN negotiated with the eight respondents, and developed a model agreement with AT&T for the elected officials in the individual municipalities to consider. Under terms of the agreement, AT&T will provide broadband connections with speeds up to 1 gigabit per second to local residents and businesses in areas where there is sufficient demand. The proposed agreements include initiatives designed to increase access to broadband, such as providing free service to certain public community sites. Similar to the streamlining encouraged by the Google Fiber check-list, NCNGN agreed to try to streamline processes around permitting and inspections, ensured nondiscriminatory treatment for broadband providers that offer similar services, and supported community education efforts about the benefits of gigabit networks.

On its website, NCNGN Steering Committee chair Tracy Futhey, a professor at Duke University, lauds the collaborative effort which “allowed us to negotiate draft agreements on par or better than many recent agreements other cities have been able to negotiate with private vendors.” She said that “this agreement grows out of community leaders working together and municipal staff approaching vendor negotiations with open minds and a willingness to consider ways their cities and towns could lead to greater infrastructure investment.”

Since signing the agreement, AT&T has launched its all-fiber “gigapower” network in parts of the participating cities of Greensboro, Raleigh-Durham, Winston-Salem, Chapel Hill, Cary, and Carrboro NC.¹⁶

Other regional initiatives

CTGig – Municipal Fiber Network Project. Forty-six Connecticut cities, including New Haven, Stamford, and West Hartford, have joined together in a regional initiative to bring high-speed Internet to their communities. The state Consumer Counsel has taken the lead on the project. As a first step, CTGig put out a Request for Qualifications soliciting information and partnerships with potential providers. Responses were due in mid-January 2015.¹⁷

¹⁵ For information about the North Carolina Next Generation Network, see “From Gigabit Testbeds to the ‘Game of Gigs:’ Third Annual Report of Gig.U., pp. 9-10 and NCNGN website at <http://www.ncngn.net/>

¹⁶ AT&T Press Release, “U-Verse with AT&T Gigapower Launches Today in Parts of the Research Triangle and Winston-Salem,” Dec. 8, 2014.

¹⁷ Hartford Courant, Dec. 19, 2014 (available at <https://mail.google.com/mail/u/0/#inbox/14ac0a7b8773cfaf?compose=14ac0f599022532e>); See also CTGig website at <http://www.ct.gov/broadband/cwp/view.asp?a=4524&q=525910>

Conclusion

City leaders understand that high-speed Internet is essential for the economic and social health of their communities. Where incumbent providers have refused to build high-speed networks, municipal leaders are looking for alternatives. The evidence shows that, with rare exception, municipalities do not have the financial resources or the expertise to build, operate, and maintain a profitable fiber network. It is the exceptional community that can follow the Chattanooga model of a municipally-owned utility expanding into broadband service.

Building, maintaining, and providing service for a fiber network is not a risk that Upstate communities can afford.

On the other hand, upstate communities cannot afford to do nothing while the digital divide becomes more entrenched. Without high-speed Internet service, businesses will leave or not locate in urban cores, the performance gap between city and suburban school districts will widen, and residents will leave for outlying areas.

The best option, of course, would be for incumbent providers to offer fiber-based Internet connectivity universally. It does not serve the public interest to allow incumbent carriers to abdicate their responsibilities in the race for ever-increasing shareholder value.

But where incumbent providers refuse to build high-speed fiber networks, municipal leaders can look to the North Carolina Next Generation Network as a model for a public-private partnership that creates political and economic incentives for private investment and good jobs for telecommunications workers. Any such project should stipulate a Project Labor Agreement and work closely with organized labor to ensure the work is of the highest standards and returns the greatest value to the community.

Upstate communities cannot sit idly by while telecommunications giants pass them by, but, as the evidence demonstrates, neither can they afford to build and operate fiber networks on their own. The most successful example of municipally owned and operated fiber networks cannot be replicated in Upstate communities because there are no major municipal electric providers and there are no federal subsidies for such projects. Municipalities should collaboratively identify the best model of a public-private partnership for their communities.

At the same time, cities should continue to pressure the Governor and the PSC to examine the limits of deregulation and take action to correct systemic problems. Communities should also explore how the Cuomo Administration's recent financial commitment to Upstate broadband build outs might help their efforts.

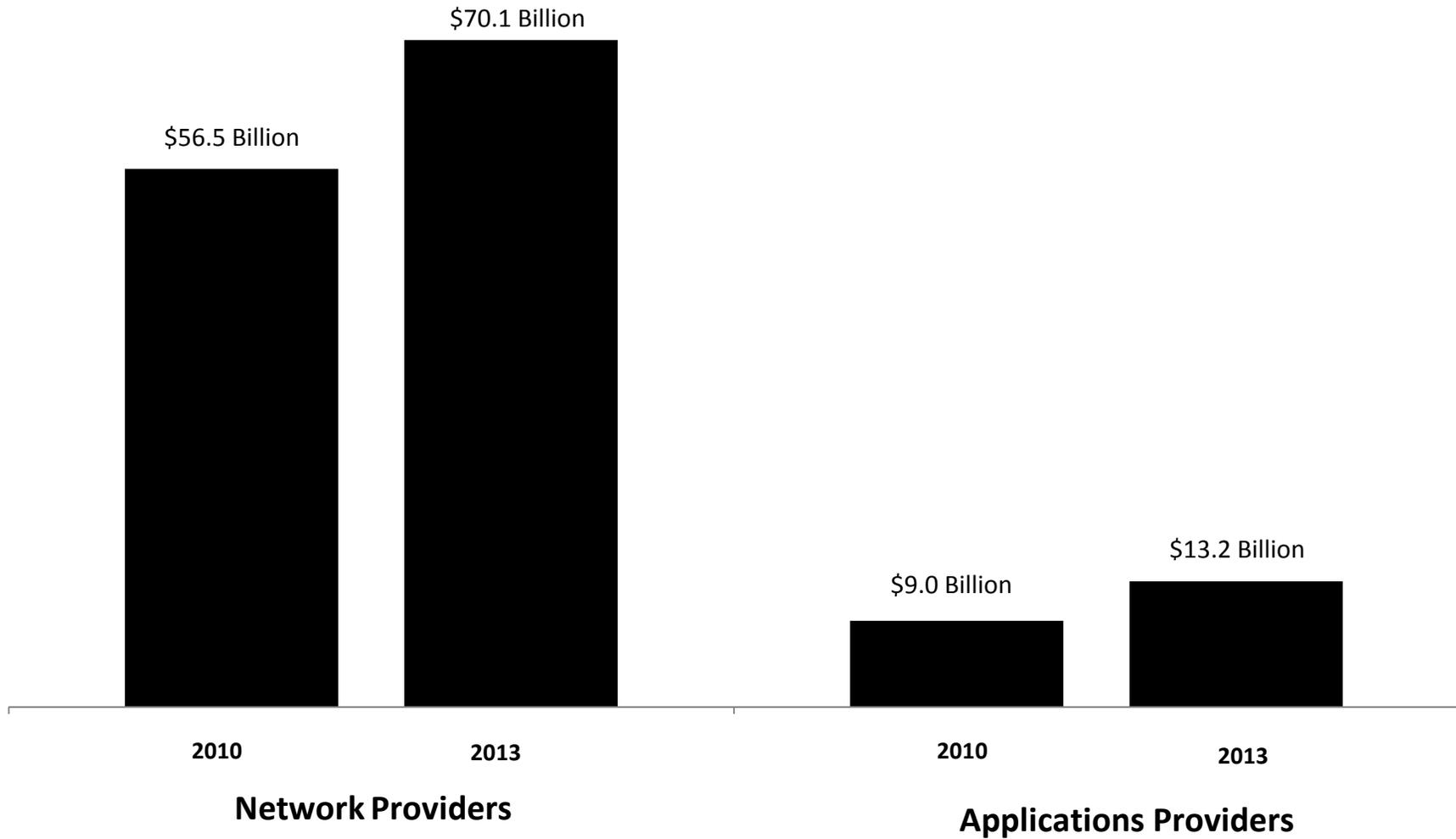
Attachment C



The U.S. Broadband Industry
Investment and Employment

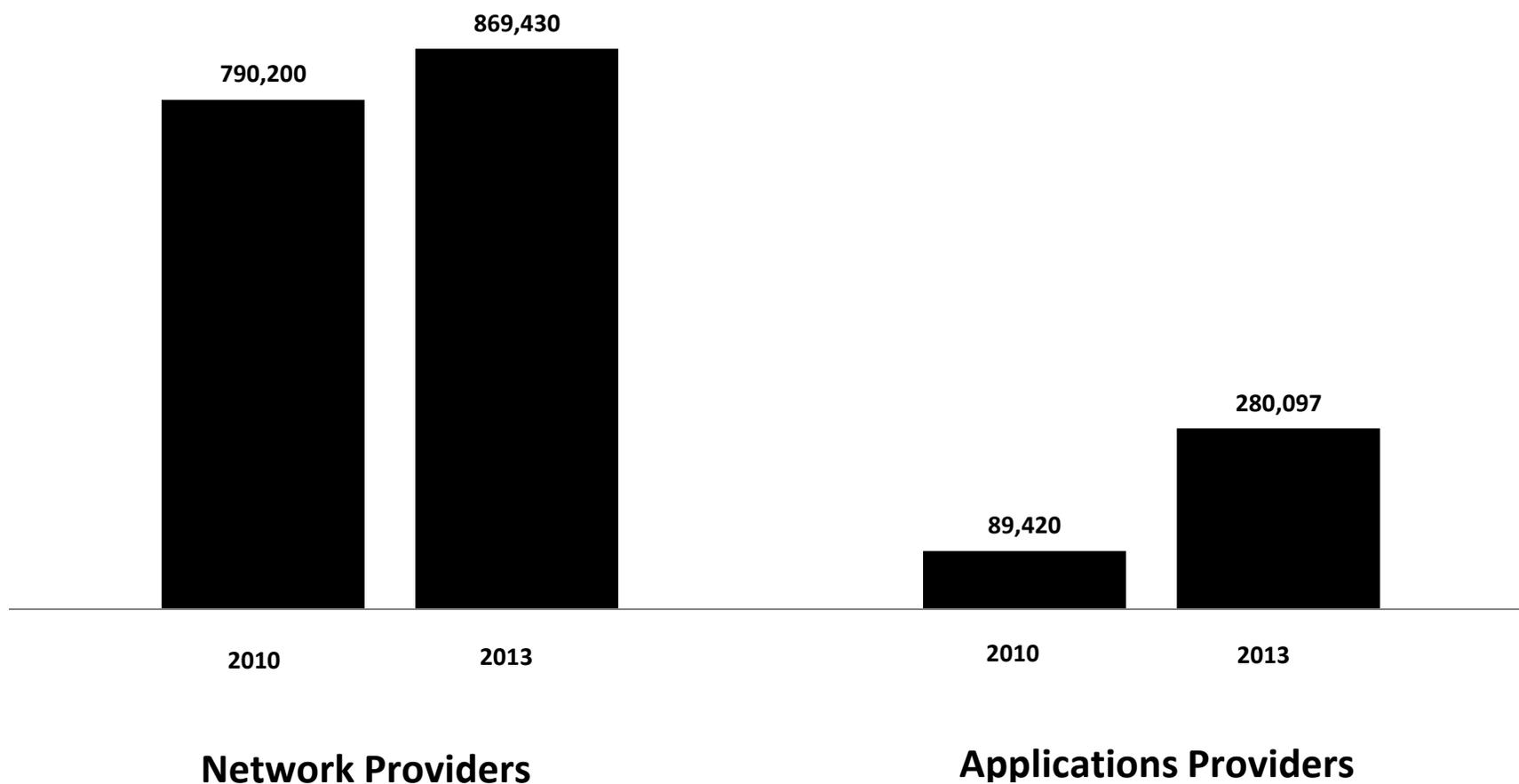
Communications Workers of America
2014

Capital Expenditures 2013 compared to 2010



Network providers include the 14 largest publicly-traded wireline, wireless, cable, and satellite companies.
Applications providers include 11 of the publicly-traded signatories of letter to FCC Chairman dated May 7, 2014.
Sources: SEC Forms 10-K, WSJ Market Watch, Company Investor Relations websites

Employment 2013 compared to 2010

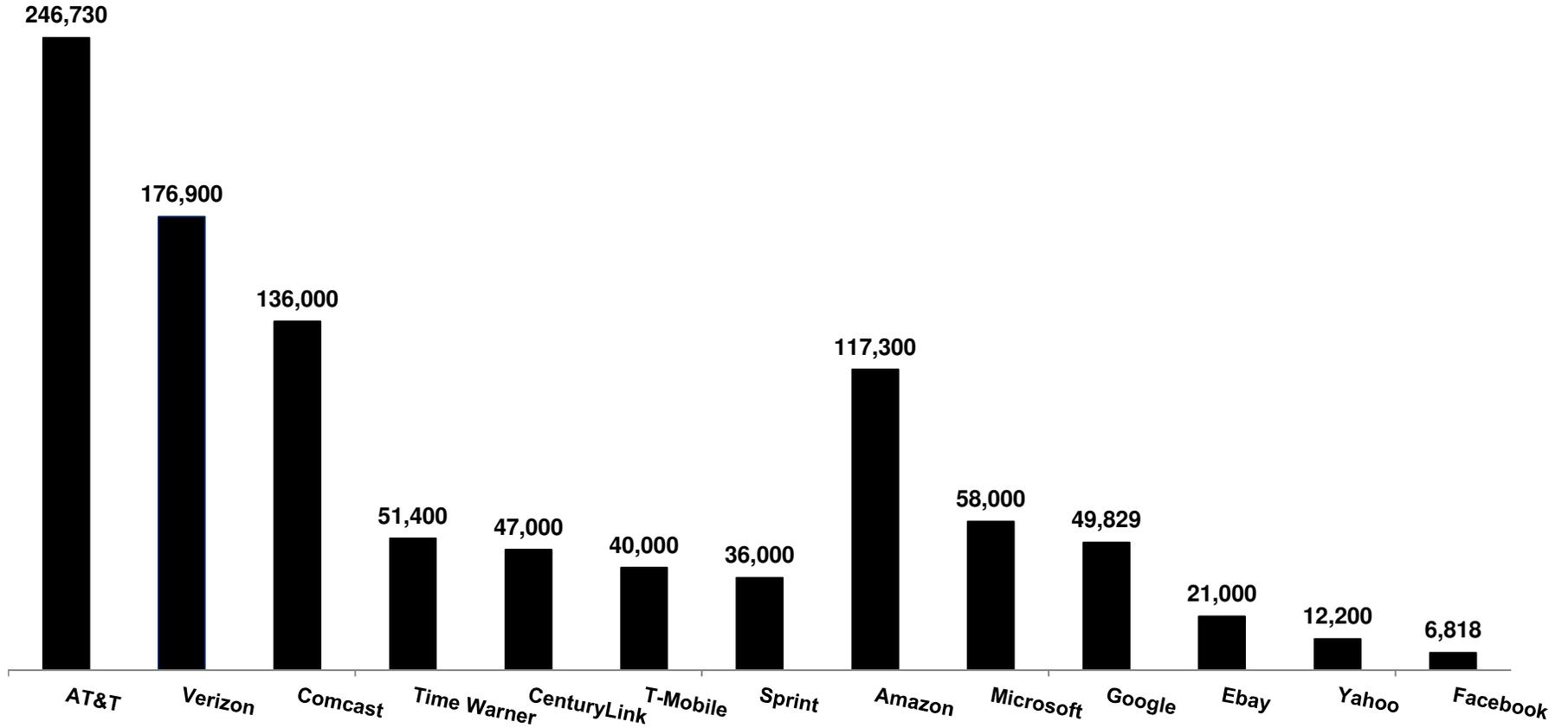


Network providers include the 17 largest telecom, video, wireless employers.

Applications providers include 16 of the signatories of letter to FCC Chairman dated May 7, 2014. Many applications providers' employees are located overseas. EBay and Microsoft's employee numbers are for the U.S. only.

Source: SEC Forms 10-K for years ending 2010 and 2013.

Employees - 2013*



* Network companies' employees are primarily in the U.S., unlike the application companies. (Microsoft and eBay are US employees only)
Source: SEC Forms 10-K

**Jobs at Broadband Network Companies
Far Exceed Jobs at Applications Companies, 2013**

Network Providers	Employees	Applications Providers	Employees
AT&T	246,730	Amazon	117,300
Verizon	176,900	Microsoft*	58,000
Comcast	136,000	Google	49,829
Time Warner Cable	51,400	Youtube	owned by Google
CenturyLink	47,000	Ebay*	21,000
T-Mobile	40,000	Skype	owned by Ebay
Sprint	36,000	Yahoo	12,200
DirecTV	30,000	Flickr	owned by Yahoo
Dish Network	25,000	Facebook	6,818
Charter	21,600	LinkedIn	5,416
Cablevision	14,470	Twitter	3,000
Frontier	13,700	Netflix	2,175
Windstream	13,400	Zynga	2,034
US Cellular	6,700	Vonage	1,287
MediaCom	4,460	Mozilla	425
Fairpoint	3,170	Etsy	243
Cinn Bell	2,900	Lyft	200
Total	869,430	Tumblr	95
		FourSquare	75
		Digg	N/A
		Meetup	N/A
		Kickstarter	N/A
		Reddit	N/A
		Total	280,097

Network providers include 17 largest telecom, video, wireless employers, excluding privately-held Cox for which data is not available. Network providers' employees are almost all in the U.S.

Applications providers include signatories of letter to FCC Chairman dated May 7, 2014. Many applications providers' employees are located overseas. EBay and Microsoft's employee numbers are for the U.S. only.

N/A = data not available

Source: SEC Forms 10-K for year ending 2013.

**Employment of African Americans and Hispanics
Network Providers Compared to Applications
Providers**

Percent Share of Workforce

	African American	Hispanic
Wireline Communications	14%	11%
Wireless Communications	12%	12%
Facebook	2%	4%
Google	2%	3%
Yahoo	2%	4%
LinkedIn	1%	4%
All U.S. Workers	10%	16%

Current Population Survey, pooled 2012 and 2013 data

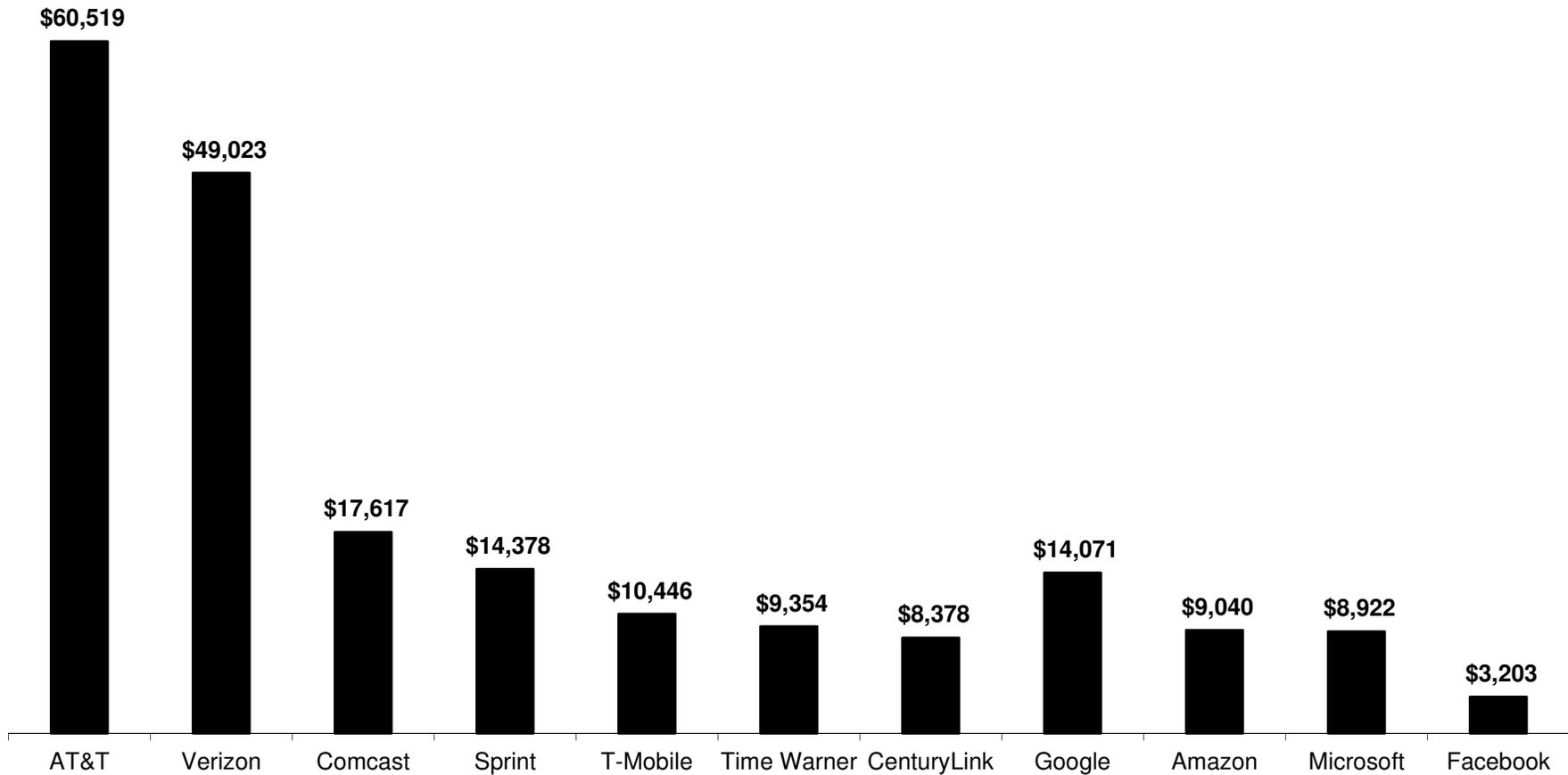
Facebook, "Building a More Diverse Workforce," July 8, 2014 (available at <http://newsroom.fb.com/news/2014/06/building-a-more-diverse-facebook/>); Google: Getting to Work on Workforce Diversity (available at <http://googleblog.blogspot.com/2014/05/getting-to-work-on-diversity-at-google.html>)

Yahoo: Workforce Diversity at Yahoo (available at <http://yahoo.tumblr.com/post/89085398949/workforce-diversity-at-yahoo>)

LinkedIn: LinkedIn's Workforce Diversity (available at <http://blog.linkedin.com/2014/06/12/linkedin-workforce-diversity>)

Capital Expenditures, Three-year Total (2011, 2012, 2013)

\$ millions



Source: SEC Forms 10-K. Dollar amounts in millions.

Capital Expenditures, 2010- 2013

\$ millions

	2010	2011	2012	2013	Three Year Total 2011, 2012, 2013	% of Industry Total
AT&T	\$ 20,302	\$ 20,110	\$ 19,465	\$ 20,944	\$ 60,519	26.3%
Verizon	\$ 16,458	\$ 16,244	\$ 16,175	\$ 16,604	\$ 49,023	21.3%
Comcast	\$ 4,961	\$ 5,307	\$ 5,714	\$ 6,596	\$ 17,617	7.7%
Sprint	\$ 1,935	\$ 3,130	\$ 4,261	\$ 6,987	\$ 14,378	6.3%
T-Mobile	\$ 2,837	\$ 2,752	\$ 3,288	\$ 4,406	\$ 10,446	4.5%
Time Warner	\$ 2,930	\$ 2,984	\$ 3,132	\$ 3,238	\$ 9,354	4.1%
CenturyLink	\$ 864	\$ 2,411	\$ 2,919	\$ 3,048	\$ 8,378	3.6%
DirectTV	\$ 1,557	\$ 1,736	\$ 1,741	\$ 2,050	\$ 5,527	2.4%
Charter	\$ 1,209	\$ 1,311	\$ 1,745	\$ 1,825	\$ 4,881	2.1%
DISH	\$ 1,113	\$ 779	\$ 945	\$ 1,254	\$ 2,978	1.3%
Cablevision	\$ 823	\$ 726	\$ 992	\$ 952	\$ 2,669	1.2%
Windstream	\$ 412	\$ 702	\$ 1,101	\$ 841	\$ 2,644	1.2%
US Cellular	\$ 586	\$ 776	\$ 949	\$ 734	\$ 2,459	1.1%
Frontier	\$ 578	\$ 825	\$ 803	\$ 635	\$ 2,263	1.0%
Network Operators Total	\$56,565	\$59,793	\$63,230	\$70,114	\$ 193,136	84.0%
Google	\$ 4,020	\$ 3,440	\$ 3,273	\$ 7,358	\$ 14,071	6.1%
Amazon	\$ 979	\$ 1,811	\$ 3,785	\$ 3,444	\$ 9,040	3.9%
Microsoft	\$ 1,980	\$ 2,360	\$ 2,305	\$ 4,257	\$ 8,922	3.9%
Facebook	\$ 293	\$ 606	\$ 1,235	\$ 1,362	\$ 3,203	1.4%
Ebay Inc.	\$ 724	\$ 964	\$ 1,260	\$ 1,250	\$ 3,474	1.5%
Yahoo	\$ 736	\$ 605	\$ 509	\$ 341	\$ 1,455	0.6%
Zynga	\$ 58	\$ 242	\$ 537	\$ 8	\$ 787	0.3%
LinkedIn	\$ 54	\$ 96	\$ 125	\$ 278	\$ 499	0.2%
Netflix	\$ 158	\$ 135	\$ 90	\$ 120	\$ 345	0.2%
Twitter	\$ 6	\$ 12	\$ 51	\$ 76	\$ 138	0.1%
Vonage	\$ 40	\$ 39	\$ 27	\$ 22	\$ 88	0.0%
Applications Providers Total	\$ 9,048	\$10,310	\$13,197	\$13,197	\$ 36,703	16.0%
Industry Total	\$65,613	\$70,103	\$76,426	\$83,310	\$ 229,840	100.0%

Network providers include 14 largest publicly-traded wireline, wireless, cable, and satellite companies.

Applications providers include publicly-traded signatories of letter to FCC Chairman dated May 7, 2014.

Sources: SEC Forms 10-K, WSJ Market Watch, Company Investor Relations websites