



**Minority Media &  
Telecom Council**

**REFOCUSING BROADBAND POLICY:  
THE NEW OPPORTUNITY AGENDA FOR PEOPLE OF COLOR**

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## Executive Summary

People of color have long been involved in and impacted by communications policy issues. From the denial of broadcast licenses to minority entrepreneurs dating back to the 1930s to the censure of political activists of color during highly charged social justice debates of the 1960s, people of color have long advocated for inclusion in this space. More recently, people of color and their communities have been greatly affected by a lack of digital resources and information to further their economic, civic and educational goals. These particular issues involve, for example, low levels of computer ownership, major gaps in digital literacy, failing schools, lack of awareness of the benefits and uses of broadband, regressive taxation of advanced communications services (especially wireless), and inadequate access to spectrum, capital, and opportunity for multicultural digital entrepreneurs.

As such, the core concern for advancing broadband adoption and digital innovation in the U.S. is to assure that first class digital citizenship is afforded to people of color and other vulnerable groups that include low-income populations, seniors and people with disabilities. A passport to digital citizenship guarantees full access to the opportunities powered by broadband and the Internet, especially those applications and Internet-enabled devices that drive physical wellness, wealth creation and educational readiness. With nearly half of the African American and Hispanic community unconnected to these resources, policymakers should champion broadband policies that facilitate, not stifle, digital diversity, inclusion and entrepreneurship.

While broadband access is more readily available to consumers where they live and work, the last few years have underscored a simple fact about broadband adoption dynamics: *they are extremely complex and unique to each user group*. And for communities of color, the barriers that are impeding more robust adoption and use of broadband are many in number and multifaceted in nature.

Encouraging a more inclusive digital ecosystem could not be more timely. Recent debates on Internet regulation, particularly net neutrality, have minimized the importance of these critical issues and largely overshadowed the adoption crisis. Overwhelmingly, public, private and community stakeholders all desire to create and maintain an “open Internet,” yet some of these same discussions have driven apart the very parties that should be working together to address inequities in digital access that diminish opportunities for minority consumers.

In an effort to return concerns about broadband adoption and digital equity to the forefront, this paper calls forth broadband policies that are focused on closing the digital divide and bringing more people of color into the innovation age. In doing so, this paper explores current trends in minority broadband adoption and assesses how current policy debates are supporting or detracting from strategies to promote higher adoption rates in minority communities. In the end, the paper outlines a more progressive agenda to achieve first class digital citizenship for people of color, including:

1. Modernizing E-rate and using broadband to transform education;
2. Facilitating universal telemedicine and mobile health innovation;
3. Expanding digital employment and entrepreneurship opportunities for people of color; and,
4. Rolling back the regressive taxation of wireless services and e-commerce that hinders broadband adoption and use.

This agenda is by no means exhaustive. Numerous other issues must be addressed before communities of color can be fully included in ongoing broadband debates. Indeed, there is likely to be disagreement regarding which issues to prioritize. Such debate is welcomed and encouraged, provided, of course, that collective attention remains focused on adoption and notions of digital equality. In an environment where advocates and community leaders are working together to connect the unconnected, bolster digital literacy, modernize public policy frameworks, and spread the good news about broadband, it's vital that the esoteric debates focused on Internet regulation not be permitted to consume all of the energies and time that must be devoted to these aforementioned issues.

## I. INTRODUCTION

People of color have long been involved in and impacted by communications policy issues. From the denial of broadcast licenses to minority entrepreneurs dating back to the 1930s to the censure of political activists of color during highly charged social justice debates of the 1960s, people of color have long advocated for inclusion in this space. More recently, people of color and their communities have been greatly affected by a lack of digital resources and information to further their economic, civic and educational goals. These particular issues involve, for example, low levels of computer ownership, major gaps in digital literacy, failing schools, lack of awareness of the benefits and uses of broadband, regressive taxation of advanced communications services (especially wireless), and inadequate access to spectrum, capital, and opportunity for multicultural digital entrepreneurs.

As such, the core concern for advancing broadband adoption and digital innovation in the U.S. is to assure that first class digital citizenship is afforded to people of color and other vulnerable groups that include low-income populations, seniors and people with disabilities. A passport to digital citizenship guarantees full access to the opportunities powered by broadband and the Internet, especially those applications and Internet-enabled devices that drive physical wellness, wealth creation and educational readiness. With nearly half of the African American and Hispanic community unconnected to these resources, policymakers should champion broadband policies that facilitate, not stifle, digital diversity, inclusion and entrepreneurship.

While broadband access is more readily available to consumers where they live and work, the last few years have underscored a simple fact about broadband adoption dynamics: *they are extremely complex and unique to each user group.*<sup>1</sup> And for communities of color, the barriers that are impeding more robust adoption and use of broadband are many in number and multifaceted in nature (See Figure 1).

**FIGURE 1: BARRIERS TO BROADBAND ADOPTION – MINORITY COMMUNITIES<sup>2</sup>**

<b>Barriers</b>
<ul style="list-style-type: none"><li>▪ Perception that broadband is not relevant and/or a necessary investment</li><li>▪ Low levels of computer ownership (not including smartphones)</li><li>▪ Underdeveloped digital literacy skills</li><li>▪ Cost/affordability concerns (these are tied to notions of relevancy)</li><li>▪ Lack of minority-oriented and, especially, minority-owned online content and services</li><li>▪ Lack of awareness of the many welfare-enhancing tools and services that are enabled by a broadband connection (<i>e.g.</i>, telemedicine, digital education tools)</li><li>▪ Lack of targeted outreach, education, and training services in minority communities</li><li>▪ Perception that the Internet is unsafe and/or fears of identity theft (among older adults)</li><li>▪ Online privacy and cybersecurity concerns</li><li>▪ Language barriers (especially relevant for non-English speaking Hispanics).</li></ul>

Given these barriers, it is imperative that policymakers focus more resources on these complex but solvable problems. Addressing these barriers will require a significant commitment of time, funding, and patience to carefully tailor and target outreach and digital literacy programs. Successfully designed and deployed, these efforts have proven to be extremely successful in connecting unconnected minorities, even though they can be a challenge to implement.<sup>3</sup>

Federal policymakers should also foster a balanced environment that encourages the type of multi-stakeholder collaboration that is essential to bringing more minorities online. The U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) has done an exceptional job in working with local stakeholders to design and deploy community-specific outreach and training programs. The Connect2Compete program, an outgrowth of efforts by the Federal Communications Commission (FCC) in this space, recently launched a new national radio and broadcast ad campaign, in partnership with the Ad Council, to promote the benefits of broadband to millions of Americans.<sup>4</sup> As to be discussed in this paper, continuing forward with this type of "collaborate first" instead of a "regulate first" approach cultivates a more proactive environment for addressing broadband adoption issues.

Encouraging a more inclusive digital ecosystem could not be more timely. Recent debates on Internet regulation, particularly net neutrality, have minimized the importance of these critical issues. Overwhelmingly, public, private and community stakeholders all desire to create and maintain an "open Internet," yet some of these same discussions have driven apart the very parties that should be working together to address inequities in digital access that diminish opportunities for minority consumers.

In an effort to return concerns about broadband adoption and digital equity to the forefront, this paper calls forth broadband policies that are focused on closing the digital divide. In doing so, this paper explores current trends in minority broadband adoption and assesses how current policy debates are supporting or detracting from strategies to promote higher adoption rates in minority communities. In the end, the paper outlines a more progressive agenda to achieve first class, digital citizenship for people of color and ensuring that people experience the economic benefits that access and use of broadband provides.

Section I of the paper summarizes current data on broadband adoption among African Americans and Hispanics. Section II examines current debates on Internet policy that can advance or limit broadband adoption rates in communities of color. Section III, the final section, outlines a pathway that ensures increased engagement of people of color in the digital economy. In Section III, four core policy areas that are both pragmatic and targeted in scope are introduced to close the digital divide: (1) modernizing E-rate and using broadband to transform education; (2) facilitating universal telemedicine and mobile health innovation; (3) expanding digital employment and entrepreneurship opportunities for people of color; and (4) rolling back the regressive taxation of wireless services and e-commerce that hinders broadband adoption and use.

This agenda is by no means exhaustive. Numerous other issues must be addressed before communities of color can be fully included in ongoing broadband debates. Indeed, there is likely to be disagreement regarding which issues to prioritize. Such debate is welcomed and encouraged, provided, of course, that collective attention remains focused on adoption and notions of digital equality. In an environment where advocates and community leaders are working together to connect the unconnected, bolster digital literacy, modernize public policy frameworks, and spread the good news about broadband, it's vital that the esoteric debates focused on Internet regulation not be permitted to consume all of the energies and time that must be devoted to these aforementioned issues.

## II. THE STATE OF DIGITAL EQUITY

Broadband is the foundation upon which the 21<sup>st</sup> century economy is being built. It is rapidly transforming virtually every aspect of modern life – from how we communicate to how we receive medical care to the types of businesses that develop in under-served communities. And most important for minorities and any other group that has been pushed to the margins of society, broadband represents the apex of equality – an on-ramp to a digital world where everyone can compete on a level playing field.<sup>5</sup> Striking the right balance between tinkering with policy and helping to forge the partnerships and collaborations needed to close the digital divide are all core to the recalibration of broadband policy, especially if these groups are to benefit from the digital economy.

Despite slight increases in minority broadband adoption over the last few years, African Americans and Hispanics are still under-adopting.<sup>6</sup> Figure 2 provides a historical overview of the digital divides that has plagued these communities for much of the last decade.

**FIGURE 2: TRENDS IN BROADBAND ADOPTION RATES ACROSS DEMOGRAPHIC GROUPS: 2005-2013<sup>7</sup>**

<i>Year</i>	<i>Overall</i>	<i>White</i>	<i>African American</i>	<i>Hispanic</i>	<i>White-African American Gap</i>	<i>White-Hispanic Gap</i>
<b>2005<sup>8</sup></b>	33%	31%	14%	28%*	17%	n/a**
<b>2006<sup>9</sup></b>	42%	41%	31%	41%*	10%	n/a**
<b>2007<sup>10</sup></b>	47%	48%	40%	47%*	8%	n/a**
<b>2008<sup>11</sup></b>	55%	57%	43%	56%*	14%	n/a**
<b>2009<sup>12</sup></b>	65%	69%	59%	49%	10%	20%
<b>2010<sup>13</sup></b>	68%	72%	55%	57%	17%	15%
<b>2011<sup>14</sup></b>	69%	74%	55%	56%	19%	18%
<b>2012<sup>15</sup></b>	65%	70%	53%	49%	17%	21%
<b>2013<sup>16</sup></b>	70%	74%	64%	53%	10%	21%

*Notes: \*English-speakers only; \*\*Not applicable because adoption surveys only covered English-speaking Hispanics*

As shown in Figure 2, African Americans have experienced a 50% increase in broadband adoption, while Hispanics are only at half of that rate of growth in the last eight years. Increasing mobile Internet use by people of color can partially explain higher levels of broadband adoption among minorities. According to recent research by the Pew Internet and American Life Project, 63% of Americans use their cell phone to access the Internet or use email; and, one in five cell owners do most of their online browsing on their phone.<sup>17</sup> Seventy four percent of African Americans are cell phone Internet users as compared to 68% of Hispanics and 59% of whites.<sup>18</sup> Low-income populations, less-educated and younger Internet users were also more likely to go online using their cell phones at higher rates than wealthier, more educated and older populations.<sup>19</sup>

The emergence of smartphones has contributed to the expanded use of the mobile Internet by people of color. In 2013, Pew research found that 56% of American adults own a smartphone of some kind, compared with 70% who have broadband at home.<sup>20</sup> In their study of smartphone usage, Pew research found that African Americans and Latinos over-indexed in their use of these devices for non-voice applications such as web surfing, playing games and accessing multimedia content.<sup>21</sup> A report issued by the Joint Center for Political and Economic Studies mirrored these findings reporting that 46% of whites have smartphones compared to 49% of African Americans and Hispanics.<sup>22</sup> Email (90%), online social media (82%) and research for school or work (70%) were the primary activities of Internet users connecting solely through a smartphone.<sup>23</sup> While the Joint Center study concluded that access to multiple Internet-enabled devices (i.e., home broadband, tablet and smartphone) increases the likelihood that individuals will access more welfare-enhancing content such as jobs, health/medical information and e-commerce, wireless access is clearly addressing one major barrier to adoption – the absence of a home broadband connection for people of color.<sup>24</sup>

While the promise of broadband is being realized by some, a large number of African Americans and Hispanics are still not online, citing relevance first and the lack of digital literacy skills second as critical reasons. Among non-Internet users, recent Pew research found that 15% of American adults over the age of 18 were not online.<sup>25</sup> According to this data, 34% of non-Internet users reported that the Internet was just not that relevant to them, pointing to the lack of interest, desire and need for it as the main reasons for lack of a connection.<sup>26</sup> Digital illiteracy was cited by 32% of survey respondents as to the reason for their lack of a connection, while 19% cited the expense of service and/or computer as another reason for not getting online.<sup>27</sup>

According to Pew's research on why people are not getting online, 24% of Hispanics are non-Internet users as compared to 15% of African Americans, and 14% of Whites.<sup>28</sup> Seniors, low-income populations, and rural residents also ranked high as non-Internet users.<sup>29</sup> When these variables are combined with race and ethnicity, disparities in broadband adoption rates are even more dramatic.

Despite their lack of online use, non-Internet users reported, both in 2010 and 2013, adequate availability of and access to broadband services either at home, through family members or



friends, or at their place of employment.<sup>30</sup> Compared to 2010 Pew data, access to Internet resources is even greater now – only seven percent of study respondents reported no access to an Internet Service Provider (ISP) in 2013.<sup>31</sup>

This finding alone suggests that the market for broadband services has blossomed over the last decade, despite gaps in demand. Some researchers and advocates would also argue that the certainty provided by a long-standing, minimalist regulatory approach to broadband policy served to preserve and expand the ecosystem, resulting in both continued investment in infrastructure and rapid deployment of next-generation wireline and wireless networks to nearly every part of the country.<sup>32</sup> Today, the vast majority of households in the U.S. are served by broadband ISPs, with most having multiple wireline and wireless options.<sup>33</sup> Equally as important, the quality of broadband service – measured in terms of speed, the range of offerings, and other factors – has greatly increased,<sup>34</sup> and prices have fallen.<sup>35</sup> Figure 3 summarizes some key achievements in the U.S. broadband market.

**FIGURE 3: A SNAPSHOT OF KEY METRICS FOR THE U.S. BROADBAND MARKET**

<b><i>Availability</i></b>
<ul style="list-style-type: none"> <li>Some form of broadband – wireline, wireless, or satellite – is available to just about every household in the country. Only 6% of the population remains without a wireline connection; 0.2% are without a wireless provider.<sup>36</sup></li> </ul>
<b><i>Investment</i></b>
<ul style="list-style-type: none"> <li>ISPs have invested over \$1 trillion in their networks between 1996 and 2011. Considerable increases in investment levels have been consistently observed in response to legal and regulatory actions that have affirmed the light-touch regulatory approach to broadband that grew out of the 1996 Act. Over the last few years, wireline and wireless providers have invested an average of \$60+ billion annually in maintaining and bolstering their infrastructure.<sup>37</sup></li> </ul>
<b><i>Competition</i></b>
<ul style="list-style-type: none"> <li>The majority of the population in the U.S. has access to multiple providers of wireline and wireless broadband. According to recent research, households have access to at least two wireline providers and four wireless providers.<sup>38</sup></li> </ul>
<b><i>Speeds</i></b>
<ul style="list-style-type: none"> <li>The average speed of Internet connections continues to rise each year. Indeed, the FCC has observed on several occasions that service providers are meeting consumer demand for faster speeds.<sup>39</sup></li> </ul>

Highlighting these accomplishments in the broadband market is important because the notion of universal service and equal access to communications technology and media has long been at the core of minority advocacy in this space.<sup>40</sup> Many national civil rights organizations have continually exerted pressure on stakeholders in the public and private sectors to ensure that historically disadvantaged groups, along with low-income households and others that have been pushed to the margins of society, have robust access to these transformative services.<sup>41</sup>

The juxtaposition of the state of broadband markets against current rates of adoption therefore should draw attention to the mismatch between growth and consumer demand, suggesting the need to focus on increasing broadband adoption.

### **III. THE IMPACT OF INTERNET REGULATION ON BROADBAND ADOPTION**

The current debate centered over whether and how the FCC might regulate the Internet has largely overshadowed the adoption crisis.<sup>42</sup> The roots of this debate stretch all the way back to discussions in the 1990s and early 2000s about the appropriateness of imposing common carrier-style “open access” rules on cable broadband service providers with one of the first early concerns being local franchise regulation.<sup>43</sup> Coined in the early 2000s, “network neutrality” attempts to both capture an amorphous set of values for Internet governance and levy an indictment of sub-par competition in the market for high-speed Internet access.<sup>44</sup>

Over time, the conversation has evolved into a broader examination of the market for high-speed Internet access in the United States and the extent to which ISPs could possibly position themselves as gatekeepers to content on the World Wide Web.<sup>45</sup> To that end, those who advocate in favor of more regulation of the Internet have long punctuated their arguments with ominous “what ifs” that might befall an “unregulated” broadband sector.<sup>46</sup> In their view, the absence of affirmative rules governing how ISPs can and cannot manage their networks leaves the market vulnerable to a range of hypothetical dangers.<sup>47</sup> On the other hand, those who argue for a minimalist regulatory framework view other governmental entities such as the Department of Justice or Federal Trade Commission mitigating genuine market failures and consumer harms on a case-by-case basis.

#### *Recapping the History of Broadband Policies*

While both of these sides have their merits, they do not fully embrace solutions for addressing the broadband adoption crisis. Despite the FCC’s 2010 National Broadband Plan’s<sup>48</sup> articulation of an inspiring vision for a more inclusive and robust culture of digital engagement, the type of rules needed to monitor and preserve the open Internet have undergone scrutiny from government, industry and advocacy groups. Historically, a hands-off approach has long been the primary guiding principle for regulating the Internet in the United States. One of the clearest interpretive statements of the FCC’s mandate in this space came from FCC Chairman William Kennard, who served as FCC chair in the late 1990s when the commercial Internet began to reach the general population and when broadband networks first began to emerge.

At that time, some local franchise authorities had decided to impose “open access” requirements, a form of common carrier regulation, on cable modem broadband service. Further, many consumer advocates and cable competitors were calling for the FCC to impose an open access obligation when approving AT&T’s (the long distance company) acquisition of the largest cable company, TCI. In 1999, recognizing that this new service and the Internet sector were poised for exponential growth, Kennard stated:

In a market developing at these speeds, the FCC must follow a piece of advice as old as Western Civilization itself: first, do no harm. Call it a high-tech Hippocratic Oath.

So with competition and deregulation as our touchstones, the FCC has taken a hands-off, deregulatory approach to the broadband market. We approved the AT&T-TCI deal without imposing conditions that they open their network.

The competitive fires are burning. The market has a degree of certainty and investment dollars have followed. Yet some local cable franchising authorities want to try a different approach. Instead of a national policy of de-regulation and competition, they want a local policy of regulation.

It is in the national interest that we have a national broadband policy. The FCC – as I’ve said before – has the authority to set one, and we have. We have taken a deregulatory approach, an approach that will let this nascent industry flourish.<sup>49</sup>

After several court challenges regarding the efficacy of imposing open access rules on cable broadband ISPs,<sup>50</sup> the FCC endeavored to clarify, once and for all, the appropriate regulatory framework for all broadband platforms.<sup>51</sup> To that end, between 2002 and 2007 the FCC classified every type of broadband platform as an “information service,” reflecting the dynamic and interactive nature of information flowing over these networks.<sup>52</sup> The practical impact of these decisions was that broadband would be subjected only to the Commission’s ancillary regulatory authority under Title I of the Communications Act, which provides for little to no government oversight. This contrasted greatly with the policy framework that had been developed for basic telephone service, which is regulated under Title II as a common carrier.<sup>53</sup> The FCC concluded that a minimalist regulatory framework for broadband services was necessary given the dynamism of the market, and was also essential to “promot[ing] widespread deployment of broadband services.”<sup>54</sup>

While these policy imperatives were clearly focused on facilitating more widespread access to broadband services, a goal shared by communities of color, the FCC during this period also explored how to ensure that “the various capabilities of [broadband] technologies [were] not used in a way that could stunt the growth of the economy, innovation and consumer empowerment.”<sup>55</sup> Addressing these concerns, FCC Chairman Michael Powell put forth four principles that would “preserve the freedom of use broadband consumers [had] come to expect.”<sup>56</sup> These “Powell Principles,” which would be eventually adopted by the FCC in a non-binding Policy Statement in 2005, entitled consumers to:

- Access the lawful Internet content of their choice;
- Run applications and use services of their choice, subject to the needs of law enforcement;

- Connect their choice of legal devices that do not harm the network; and
- Experience competition among network providers, application and service providers, and content providers.<sup>57</sup>

Each principle was subject to the reasonable network management needs of the broadband service provider.<sup>58</sup> While these were not formal, enforceable rules, the FCC did express an intention to “incorporate the...principles into its ongoing policymaking activities.”<sup>59</sup>

Despite the rapid build-out of the nation’s broadband infrastructure, skepticism regarding the ability of organic market forces to drive the marketplace to positive, consumer-focused outcomes has lingered. In the mid- and late-2000s, there were repeated calls for the imposition of common carrier-style rules on broadband ISPs, even though the FCC had expressly declined to do so for fear that such rules would choke innovation.<sup>60</sup> Moreover, calls for formal network neutrality rules increased as some advocates argued that the Commission’s Policy Statement enshrining the Powell Principles was insufficient to protect against the potential for content discrimination, blocking, throttling, and other such activities by ISPs. However, until 2007 the FCC did not receive a single complaint claiming unlawful or unreasonable behavior by ISPs.<sup>61</sup> And even when it did – in a case involving alleged throttling of the bandwidth-intense data traffic of BitTorrent by cable broadband provider Comcast<sup>62</sup> – the debate over the proper scope of Internet regulation and consumer protection quickly snowballed into what some saw as a proxy battle over the future of the open Internet.

The subsequent inquiry by the FCC, which began in early 2008, set in motion a series of interrelated events that, over the next two years, largely dominated the discussion of removing barriers to broadband adoption and resulted in the adoption of network neutrality rules. Having anticipated legal challenges, a year earlier the FCC launched a rulemaking proceeding to “provide greater clarity regarding the Commission’s approach to these issues.”<sup>63</sup> Specifically, the Commission wished to codify the four principles included in the 2005 Policy Statement, along with two new rules: a nondiscrimination rule and a transparency requirement for ISPs.<sup>64</sup>

### *The FCC’s Proposed New Regulatory Framework*

In December 2010, the Commission closed its rulemaking proceeding by adopting a completely new regulatory framework for the Internet, a framework that went far beyond what the FCC had outlined previously in its 2005 Policy Statement. The FCC rationalized that such sweeping and historic action was necessary to preserve the open Internet. These new rules encompassed:

- *Blocking.* Subject to reasonable network management, providers of fixed broadband Internet access services were prohibited from blocking lawful Internet content, applications, services, or non-harmful devices.<sup>65</sup> Mobile broadband providers were afforded more latitude and prevented only from

blocking lawful websites or applications that provide voice or video telephony services.<sup>66</sup>

- *Transparency.* All ISPs were required to disclose their network management practices (e.g., congestion management, attachment rules), performance characteristics (e.g., service description and impact of specialized services), and commercial terms (e.g., pricing and privacy policies).<sup>67</sup> Consumer and civil rights organizations favored strong transparency requirements.<sup>68</sup>
- *Unreasonable discrimination.* Recognizing that “[a] strict nondiscrimination rule would be in tension with our recognition that some forms of discrimination, including end-user controlled discrimination, can be beneficial,”<sup>69</sup> the FCC adopted a rule that prohibited only providers of fixed broadband service from “unreasonably discriminat[ing] in transmitting lawful network traffic over a consumer’s broadband Internet access service.”<sup>70</sup>

Several carve-outs and exceptions were included in this framework. In one major carve-out, the FCC, recognizing the unique capacity constraints and other distinctive qualities of wireless networks, limited the extent to which the rules applied to mobile broadband ISPs. In particular, the FCC opted to “apply certain of the open Internet rules, requiring compliance with the transparency rule and a basic no-blocking rule.”<sup>71</sup> In a second exception, the FCC created a new category of services – specialized services – that are to be exempt from the rules for the foreseeable future.<sup>72</sup> This class of services includes VoIP and IP video and might eventually embrace applications like telemedicine. According to the exception, these specialized services must also be closely monitored by the FCC in order to “verify that [they] promote investment, innovation, competition, and end-user benefits without undermining or threatening the open Internet.”<sup>73</sup>

As soon as these rules were finalized and put into effect,<sup>74</sup> they were appealed to the Court of Appeals for the District of Columbia Circuit on the grounds that the FCC had exceeded the regulatory authority granted to it by Congress.<sup>75</sup> A decision in the case is expected by the end of 2013.<sup>76</sup>

### *The Impact of FCC Regulatory Decisions on Broadband Adoption*

While this paper takes no position on which side will prevail in the court decision on the net neutrality rules, it’s worth noting that an “open Internet” and increased broadband adoption should still be the goals regardless of the decision. As stated earlier, broadband growth and technology innovation have created the backdrop for greater digital engagement by all citizens, yet more vulnerable populations are not immediately adopting. As shown in Figure 2, disparities still exist despite the fact that the FCC explicitly stated that it “expect[ed] that open Internet protections [would] help close the digital divide by maintaining low barriers to entry for underrepresented groups and allowing the development of diverse content, applications and services.”<sup>77</sup> Moreover, gaps between African Americans, Hispanics, and Whites have

persisted both before and after the imposition of Internet regulation.<sup>78</sup> *Given this scenario, what could be the impact of more or less Internet regulation now narrowing the current digital divide?*

If the rules were to be upheld in this decision, minority consumers and other newcomers to the Internet might be subjected to cost shifting by ISPs to shoulder the cost of heavier users that congest the Internet with heavy video streaming and multimedia downloads. The idea that minority consumers, who are already disproportionately adopting broadband and sensitive to any changes in price, should incur the expense of heavier bandwidth users does not appear to further the goals of broadband adoption. Previous data points presented in this paper indicated that email, social media and access to multimedia content (e.g., photos, music, etc.) were primary activities online for minority consumers.<sup>79</sup> These three functions taken together do not require enormous amounts of bandwidth and justify the need for service and price differentiation for late adopters and non-Internet users to match usage expectations and their discretionary income.

Moreover, over-regulating this industry could undermine business models that have essentially kept, and continue to keep, the cost of broadband services lower. In a paper on broadband competition, Everett Ehrlich argues that the Internet's "two-sided" market is what drives down consumer pricing.<sup>80</sup> Comparing the broadband ecosystem to that of newspapers, Ehrlich notes that the daily newspaper generates its revenue through consumer subscriptions and advertising, and concludes that if newspapers were over-regulated and told to keep ad revenues marginalized, newspapers – much like the Internet – would find themselves substantially raising consumer prices and possibly impacting consumer demand for the product."<sup>81</sup> Today, the cost of broadband services is, in fact, decreasing due to flexible business models that capitalize on competition and market-driven revenue opportunities, e.g., online advertising.<sup>82</sup>

On this same issue, online content and applications that serve the needs of Internet users and entice those who are offline to adopt, should take some priority in this content's arrival to the PCs and smart devices of consumers. In his article on the "two-sided" market of the Internet, Nicholas Economides, a net neutrality proponent, suggested that prioritization of monetized content over non-paying firms on an "open Internet" is discriminatory.<sup>83</sup> While his conclusions have some plausibility due to the diverse interests of Internet users, safeguards are already in place to monitor industry's performance in this area. The FCC's annual "Measuring Broadband America" report details the speed and performance of broadband connections and calls out degrading services among broadband providers.<sup>84</sup> In this annual report card, any negative effect on broadband performance due to content prioritization is designed to show up, thus making the industry more accountable – and in some cases, more competitive in touting their service quality. Therefore, there is little danger that prioritizing some content will cause a degradation of general Internet traffic. Moreover, some legitimate cases for content prioritization do exist – one being in the area of telemedicine.

As more minorities, for example, suffer from chronic diseases and inadequate access to health care, more advanced and consumer-focused telemedicine and telehealth applications should take priority over leisurely downloads, especially if the need for data is critical for patient care and insurance companies are willing to pay for it.<sup>85</sup> The ability of high-speed broadband networks to facilitate patient to doctor connections, especially for low-income or rural communities, is another step towards assuring first class digital citizenship for all Americans. Given that most minorities are also using the mobile Internet to access the web, the combination of spectrum shortages for commercial wireless and the imposition of overly stringent neutrality rules might limit the expedited delivery of this type of content, especially if applications like telemedicine are not exempted from the rules.

In sum, if the net neutrality rules are ultimately upheld by the federal courts, then policymakers, minority advocates and community stakeholders must consider the potential impacts of regressive cost structures, stalled competition and innovation on efforts to advance broadband adoption and use. The Commission should also interpret and apply its rules and policies in a reasonable, forward-looking manner commensurate with the minimalist regulatory framework for broadband that has encouraged investment and innovation throughout the ecosystem for nearly two decades. Failure to do so could adversely impact users by undermining business model experimentation (*e.g.*, new ad-supported services, or non-monopolistic partnerships between content providers and ISPs that hinge on granting preferred network access) and the emergence of new services that are being developed in direct response to consumer demand (*e.g.*, telemedicine tools that require prioritization; new streaming media services).<sup>86</sup>

If the rules are invalidated, on the other hand, the “open Internet” should still remain an essential policy focus. Policymakers, minority advocates and community stakeholders should place continued pressure on industry to invest, innovate and extend its efforts to bring more underserved populations online, particularly by stabilizing or reducing consumer costs for broadband services. In the absence of rules, the FCC should also recognize that broadband service is different from what has historically been considered a common carrier service. These fundamental technological differences are also evident in the ability to enable broadband Internet access via different platforms – *e.g.*, cable, DSL, BPL, fiber, 3G wireless, 4G wireless, and satellite. This type of intermodal competition that was impossible in the context of basic telephone service suggests the maintenance of a minimalist, Title I-based regulatory framework under which the market has long thrived. On this basis alone, attempting to reclassify broadband as a Title II telecommunications service could prove harmful for consumers and companies alike.<sup>87</sup>

If history is any guide, debates around Internet regulation will continue to dominate the discussion around the future of the Internet, but, as suggested in this paper, at a cost to closing the digital divide. The time, resources and efforts focused on picking “winners” and “losers” in this debate can detract from solving the enormously complex and top priority task of connecting and serving the unconnected.

Going forward, numerous other barriers and issues are ripe for narrowly tailored interventions that, if properly calibrated, can help deliver more robust and evenly distributed gains in consumer welfare. The final section of this paper expounds upon these opportunities and proposes more pragmatic policy solutions that would advance the cause of digital inclusion.

#### **IV. REFOCUSING BROADBAND POLICY TO ADVANCE DIGITAL INCLUSION FOR PEOPLE OF COLOR**

Broadband policy should engage communities of color to leverage broadband for individual and community empowerment. As such, this paper offers an alternative approach to broadband policy that shifts the resources and energy from a protracted and unnecessary battle over regulation to connection of underserved and under-connected demographic groups.

With these dynamics in mind, the remainder of this paper articulates an alternative path forward for the FCC, Congress, ISPs, advocates, and other stakeholders in the broadband space. The issues discussed below are of fundamental importance not only to communities of color, but to every demographic group, sector, and institution in the United States.

##### **Modernizing the E-rate and Using Broadband to Transform U.S. Education**

A critical component of solving the adoption crisis in the United States is ensuring that children are equipped with the skills needed to excel in our digital society. While Internet access has diffused across nearly every school in the nation,<sup>88</sup> high-speed access is unavailable in many schools, and the disruptive power of broadband remains largely untapped in this vital sector. The issues are well known: average bandwidth per student is low across the entire student population; many schools lack adequate computing equipment (*e.g.*, laptops and tablets) to tap into the full power of broadband; too many teachers are unprepared to apply or teach new technologies in the classroom; and lack of home access to broadband access profoundly inhibits learning outside of school.<sup>89</sup>

Addressing these barriers is essential for all children and our country generally, but especially vital for African American and Hispanic students, particularly those from low-income, low-wealth families. As in many other contexts, significant disparities exist in the educational achievement and performance of communities of color vis-à-vis other demographic groups. Despite significant gains in recent years, African American and Hispanic students still lag behind children in other demographic groups by a number of measures, including high school graduation rates and reading and math test results.<sup>90</sup> As a result, African Americans and Hispanics are less likely to attend and finish college than White counterparts.<sup>91</sup>

Broadband cannot and will not solve all of these problems on its own, but ensuring that high-speed Internet access is widely available in schools and being applied to enhance educational engagement will be significant steps toward bridging the achievement gap. Broadband supports an ever-expanding array of tools and services that can provide students with more individualized learning experiences that can be accessed regardless of location. Modernizing the E-rate program to ensure that funding is being used to support these types of outcomes



must be a priority for federal policymakers. Fortunately, the FCC has begun the process of updating and streamlining this program to better reflect the modern educational and technological environment.<sup>92</sup>

To ensure that E-rate 2.0 is aligned with the educational and technology goals of minority communities, the FCC should engage directly with stakeholders working in these communities to benefit from their expertise and explore what works when it comes to designing programs aimed at enhancing educational outcomes in minority communities.<sup>93</sup> The next iteration of the E-Rate program can be pivotal in upgrading technology-deficient schools and libraries located in poor and minority communities and initiating the pathway to digital citizenship for isolated populations. Robust digital learning environments will also enable the use of 21<sup>st</sup> century devices, as well as pedagogies that support science, technology, engineering and mathematics (STEM) core competencies for disadvantaged schools and students.

All of these gains, of course, will be for naught if home broadband adoption rates remain low. In this new world of broadband-enabled communication and education, learning should not stop once a student leaves the schoolyard. A growing body of evidence suggests that children in households that adopt broadband have better educational outcomes than children in households that remain unconnected.<sup>94</sup> These gains, however, also hinge on parents who are themselves digitally literate and who are engaged in helping their children use broadband to enhance their education.<sup>95</sup> Much work remains to be done at the community level to ensure that parents, grandparents, teachers, community leaders, and other authority figures agree to use broadband to create a culture of adoption, a culture of digital learning, and a culture of digital empowerment and achievement for minority students of all ages.

### **Facilitating Telemedicine and Mobile Health Innovation**

As previously discussed, advanced broadband technology is rapidly transforming healthcare in the United States. This real-time, always-on communications platform allows for dramatic new approaches to delivering and consuming medical care regardless of location.<sup>96</sup> A wide range of broadband-enabled technologies – from wireless sensors to mobile devices to electronic health records – are already being used by practitioners to deliver in-home care, to remotely monitor patients' vital signs, to provide healthcare services in underserved areas, and to more conveniently connect patients with specialists.<sup>97</sup> Together, these new approaches are generating impressive results in the form of better health outcomes, lower costs, and wider availability.<sup>98</sup> Yet the very groups that are poised to benefit most immediately and profoundly from these more advanced healthcare services – *i.e.*, older adults, people with disabilities, African Americans, and Hispanics – have the lowest broadband adoption rates.

For minorities in particular, broadband-enabled telemedicine provides convenient and affordable ways to address chronic illnesses and diseases. This is especially critical for African Americans and Hispanics, who collectively are at a higher risk of developing costly chronic diseases (*e.g.*, diabetes, heart disease) than other groups.<sup>99</sup> They are also less likely to have

health insurance, which reduces the likelihood that chronically ill patients will seek out and obtain preventative care or other services that could lead to early diagnosis and treatment.<sup>100</sup> As such, African Americans and Hispanics are poised to benefit greatly from the full panoply of telemedicine services, especially those enabled by and accessible on mobile devices. Since African Americans and Hispanics are already avid users of wireless broadband services,<sup>101</sup> there is growing evidence that mobile telemedicine interventions and solutions are well positioned to deliver the kind of preventive, real-time medical care that is not readily accessible to these patients.<sup>102</sup>

Uncertainty regarding the ability to prioritize healthcare data traffic, and the persistence of numerous legal and regulatory barriers, could thwart continued progress in telehealth. As the National Foundation for Women Legislators (NFWL) and the National Organization of Black Elected Legislative (NOBEL) Women observed in 2010, having wide latitude to manage networks and prioritize certain types of critical, time-sensitive data is essential to promoting continued innovation in this space.<sup>103</sup> While it could be determined that telehealth applications could be exempted from neutrality rules, several other barriers can also impede further progress and innovation in this space.<sup>104</sup> These include a range of analog-era rules impacting physician licensure and credentialing,<sup>105</sup> as well as antiquated insurance reimbursement mechanisms and health data privacy rules.<sup>106</sup> Addressing and potentially resolving these impediments can unleash the full disruptive power of broadband in the healthcare space. To that end, it is imperative that policymakers at the federal and state levels work to remove barriers and encourage more innovation throughout the burgeoning telemedicine ecosystem. Ultimately, a windfall of benefits and opportunity for communities of color and other underserved groups should be at the top of a new broadband policy agenda.

### **Expanding Digital Employment and Entrepreneurship for People of Color**

An important consequence of addressing the adoption crisis and removing persistent barriers to broadband adoption in education will be increased use of advanced communications tools to bolster minority entrepreneurship, employment, and overall wealth creation and economic standing.

High-speed Internet access is an increasingly essential tool for workers of all kinds. Broadband rapidly creates new jobs and new kinds of jobs<sup>107</sup> and represents a unique platform that allows anyone with an idea, ambition, and digital literacy skills to launch a small business.<sup>108</sup> This is potentially a boon for people of color in particular, who have endured decades of stubbornly high unemployment rates.<sup>109</sup> Such chronic employment disparities, coupled with the lingering vestiges of marginalization, have also contributed to a staggering gap in household wealth between Whites, African Americans, and Hispanics. A recent analysis by Pew found that the “median wealth of white households is 20 times that of [B]lack households and 18 times that of Hispanic households.”<sup>110</sup> Together with limited access to capital,<sup>111</sup> low rates of broadband adoption, and lagging digital literacy skills,<sup>112</sup> these factors combine to put African Americans and Hispanics at a grave disadvantage in the new digital economy.

Becoming a digital entrepreneur, however, can be difficult. As with any other business endeavor, using broadband to start a new venture is fraught with uncertainty. Success often hinges on funding, relationships, skill, and luck. Unfortunately, the deck has long been stacked against minorities in the high tech space. A 2011 report by MMTC found that “minorities, particularly African Americans, Hispanics, and women, remain sorely underrepresented across the high tech sector and in the ranks of some of the sector’s biggest companies.”<sup>113</sup> Numerous factors have contributed to this outcome – low participation rates and achievement in STEM subjects (science, technology, engineering, and math) by African American and Hispanic students; a general disregard for Equal Employment Opportunity (EEO) reporting and compliance by high tech firms; little support for minority and women business enterprises in the sector; and limited access to critical resources (*e.g.*, spectrum).<sup>114</sup> Indeed, despite lofty rhetoric promising equal access and openness, the high tech sector still remains largely closed to African Americans and Hispanics.<sup>115</sup> Such an inhospitable environment discourages the type of risk-taking needed to succeed in this highly dynamic and competitive space.<sup>116</sup>

At a time when many high tech companies are advocating for immigration law reforms in an effort to import more talent – and thus fill viable openings with non-citizens – policymakers should work to bolster the domestic supply of technologically proficient workers.<sup>117</sup> The urgency around these issues is made even more acute by federal sequestration and budget cuts that make it necessary for public officials to choose how to deploy increasingly scarce resources in a way that will realize the largest return on investment. In such an environment, policymakers – while insisting on strict enforcement of EEO and other civil rights mandates – should tread carefully on relying entirely on rigid policies dependent upon government oversight. Instead, a collaborative approach that partners public and private sectors to advance minority participation in the high tech sector should be considered. To that end, policymakers should support efforts to improve minority STEM achievement,<sup>118</sup> make minority employment data more transparent, raise awareness of effective minority hiring practices in the private sector, increase access to capital and other critical resources needed for minority entrepreneurs to thrive in this space, and improve broadband adoption rates in minority communities.<sup>119</sup>

These and other actions must be taken to equip eager minority candidates with the skills, resources, and confidence needed to compete for and secure positions in this space.<sup>120</sup> These efforts will also undoubtedly encourage and embolden would-be digital entrepreneurs to enter the fray and attempt to build successful businesses.

### **Rolling Back the Regressive Taxation of Wireless Services and E-Commerce that Hinders Broadband Adoption and Use**

As previously discussed, African Americans and Hispanics are over-indexing in their use of the mobile Internet and increasingly becoming the avid users of smartphones. Yet, despite these positive trends, wireless services continue to be taxed at disproportionately high rates.

This preference by minorities for mobile services makes high wireless taxes a significant burden on low-income users, and particularly minorities. A 2012 analysis of wireless taxes found that the average tax burden on wireless consumers was just over 17 percent, with many states having rates over 20 percent.<sup>121</sup> State and local levies and fees comprise the largest share of these taxes (11.36 percent of the overall burden).<sup>122</sup>

The regressive nature of these taxes could discourage continued use of wireless services, including mobile broadband, in communities of color and low-income households.<sup>123</sup> Combined with an array of other state and local taxes being levied on digital goods, the overall tax burden associated with using mobile services to purchase goods could deter more robust use of these tools by the very groups that are turning to them as their primary means of communication. As the Joint Center for Political & Economic Studies noted in a 2011 report,

“[s]uch regressive taxation schemes create a broadband adoption barrier for low-income individuals that have no other reliable way to go online. The higher total cost of service created by these taxes may cause many low-income consumers to either forego purchasing a mobile device and subscribing to a mobile service plan or cancel their service upon discovering the true cost of maintaining their service.”<sup>124</sup>

Similar concerns abound in communities of color, where mobile broadband has emerged as the primary pathway to first class digital citizenship.<sup>125</sup>

There are several ways in which policymakers can work together to reverse these trends. First, local and state policymakers should work closely with community leaders, advocates for minorities and the poor, and other stakeholders to appreciate how integral wireless services have become to everyday life. Acquiring such perspective could help to begin the process of equalizing the tax treatment of wireless services with other services. Second, the FCC should work to rein in growth of the USF portion of the overall wireless tax burden. In particular, the Commission could accelerate reforms aimed at creating economies in the operation of the High Cost Fund, and more accurately targeting subsidies and thus driving down overall costs.<sup>126</sup> Continued support of the Lifeline program will ensure that people of color, irrespective of their ability to pay, will be able to benefit from wireless services. Third, Congress should pass legislation that would place a moratorium on new state and local wireless taxes for the foreseeable future. In the recent past, several bills to this effect have been introduced, but none has gained momentum towards enactment.<sup>127</sup>

In sum, according to the 2011 report from the Joint Center for Political and Economic Studies,

“[w]hile regressive state and local wireless taxation structures may appear to generate revenues to provide needed services, these taxes also put mobile opportunities farther out of reach for those consumers who would most benefit from wireless broadband.”<sup>128</sup>

As such, there are many opportunities for stakeholders to come together and develop fairer tax structures for wireless and E-commerce.

## **V. A CALL TO ACTION**

This agenda is by no means exhaustive. Numerous other issues must be addressed before communities of color can be confident in their inclusion in ongoing broadband debates. Indeed, there is likely to be disagreement regarding which issues to prioritize. Such debate is welcomed and encouraged, provided, of course, that collective attention remains focused on adoption and notions of digital equality. In an environment where advocates and community leaders are working together to connect the unconnected, bolster digital literacy, modernize public policy frameworks, and spread the good news about broadband, more complex debates focused on Internet regulation seem to redirect energies and time spent on these aforementioned issues.

As stated throughout the paper, the current focus on the enforcement of rules that are designed to be prophylactic<sup>129</sup> towards hypothetical “what ifs” has detracted from this critical conversation on how the nation will ensure a more inclusive and beneficial Internet for all citizens. The critical concern of advancing digital inclusion should resonate with all stakeholders who want to assure that millions of Americans are privileged to the social, economic and education benefits powered by the broadband ecosystem. In particular, the call to action must include:

- Modernizing E-rate and using broadband to transform education;
- Facilitating universal telemedicine and mobile health innovation;
- Expanding digital employment and entrepreneurship opportunities for people of color; and,
- Rolling back the regressive taxation of wireless services and e-commerce that hinders broadband adoption and use.

These are all actionable policy issues that serve to engage and remove the deterrents to broadband adoption for more vulnerable populations.

While priorities will differ on how to reach these goals, agreement on the core issue of first class, digital citizenship for people of color, low-income, senior and disabled Americans should resonate, especially in the achievement of digital equity. Ultimately, this aspirational state will only be achieved if all interests are aligned around common goals that are focused on empowering vulnerable populations to seize the many opportunities afforded by informed broadband use.

## **ABOUT THE AUTHORS**

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## ENDNOTES

<sup>1</sup> The literature on this point is vast and growing. For a representative sampling, see *National Minority Broadband Adoption* (identifying minority-specific barriers); *Barriers to Broadband Adoption: A Report to the FCC*, New York Law School (Oct. 2009), available at [http://www.nyls.edu/user\\_files/1/3/4/30/83/ACLP%20Report%20to%20the%20FCC%20-%20Barriers%20to%20BB%20Adoption.pdf](http://www.nyls.edu/user_files/1/3/4/30/83/ACLP%20Report%20to%20the%20FCC%20-%20Barriers%20to%20BB%20Adoption.pdf) (identifying dozens of barriers impacting broadband adoptions by seniors, people with disabilities, and stakeholders throughout the education, energy, and healthcare sectors) (“*Barriers to Broadband Adoption*”); Paula Gardner *et al.*, *Getting turned on: Using ICT training to promote active ageing in New York City*, *The Journal of Community Informatics*, 8(1) (2012), available at <http://ci-journal.net/index.php/ciej/article/view/809> (identifying barriers and methods for overcoming barriers in the senior citizen community).

<sup>2</sup> These barriers are derived from: *National Broadband Plan; National Minority Broadband Adoption; Promoting Broadband Adoption Among Minorities*, Florida Conference of Black State Legislators (Oct. 2011), available at <http://communicationsconsumersunited.com/wp-content/uploads/2011/10/Florida-Conference-of-Black-State-Legislators-Broadband-Adoption-paper-092010.pdf>; Robert Shapiro and Kevin Hassett, *A New Analysis of Broadband Adoptions Rates by Minority Households*, Georgetown Center for Business and Public Policy (June 2010), available at [http://www.sonecon.com/docs/studies/Report\\_on\\_Broadband\\_Pricing\\_and\\_Minorities-Shapiro-Hassett-June-21-2010.pdf](http://www.sonecon.com/docs/studies/Report_on_Broadband_Pricing_and_Minorities-Shapiro-Hassett-June-21-2010.pdf); *Broadband Imperatives for African Americans: Policy Recommendations to Increase Digital Adoption for Minorities and Their Communities*, Joint Center for Political & Economic Studies *et al.* (Sept. 2009), available at [http://www.jointcenter.org/sites/default/files/upload/research/files/MTI\\_Broadband\\_Report\\_Print.pdf](http://www.jointcenter.org/sites/default/files/upload/research/files/MTI_Broadband_Report_Print.pdf); Nicol Turner-Lee, *The New Era of Broadband and Democracy: Pathways to Digital Inclusiveness*, Joint Center for Political & Economic Studies (Aug. 2009), available at [http://www.jointcenter.org/sites/default/files/upload/research/files/turnerlee\\_0.pdf](http://www.jointcenter.org/sites/default/files/upload/research/files/turnerlee_0.pdf).

<sup>3</sup> See, e.g., *Broadband Adoption Toolkit*, National Telecommunications & Information Administration, U.S. Dept. of Commerce (April 2013), available at [http://www2.ntia.doc.gov/files/toolkit\\_042913.pdf](http://www2.ntia.doc.gov/files/toolkit_042913.pdf) (highlighting dozens of successful adoption programs) (“*Broadband Adoption Toolkit*”).

<sup>4</sup> See Press Release, Ad Council & Connect2Compete Launch Nationwide PSA Campaign to Increase Digital Literacy for 62 Million Americans, March 21, 2013, Ad Council, available at <http://www.adcouncil.org/News-Events/Press-Releases/Ad-Council-Connect2Compete-Launch-Nationwide-PSA-Campaign-to-Increase-Digital-Literacy-for-62-Million-Americans>.

<sup>5</sup> See, e.g., Universal Broadband Adoption.

<sup>6</sup> See e.g., Jon P. Gant *et al.*, *National Minority Broadband Adoption: Comparative Trends in Adoption, Acceptance and Use*, Joint Center for Political & Economic Studies (March 2010), available at [http://www.jointcenter.org/sites/default/files/upload/research/files/MTI\\_BROADBAND\\_REPORT\\_WEB.pdf](http://www.jointcenter.org/sites/default/files/upload/research/files/MTI_BROADBAND_REPORT_WEB.pdf) (examining the myriad of barriers impeding more robust adoption in these communities (“*National Minority Broadband Adoption*”). Additional data and analysis can be found in Figure 1 and accompanying citations.

<sup>7</sup> These barriers are derived from: *National Broadband Plan; National Minority Broadband Adoption; Promoting Broadband Adoption Among Minorities*, Florida Conference of Black State Legislators (Oct. 2011), available at <http://communicationsconsumersunited.com/wp-content/uploads/2011/10/Florida-Conference-of-Black-State-Legislators-Broadband-Adoption-paper-092010.pdf>; Robert Shapiro and Kevin Hassett, *A New Analysis of Broadband Adoptions Rates by Minority Households*, Georgetown Center for Business and Public Policy (June 2010), available at [http://www.sonecon.com/docs/studies/Report\\_on\\_Broadband\\_Pricing\\_and\\_Minorities-Shapiro-Hassett-June-21-2010.pdf](http://www.sonecon.com/docs/studies/Report_on_Broadband_Pricing_and_Minorities-Shapiro-Hassett-June-21-2010.pdf); *Broadband Imperatives for African Americans: Policy Recommendations to Increase Digital Adoption for Minorities and Their Communities*, Joint Center for Political & Economic Studies *et al.* (Sept. 2009), available at [http://www.jointcenter.org/sites/default/files/upload/research/files/MTI\\_Broadband\\_Report\\_Print.pdf](http://www.jointcenter.org/sites/default/files/upload/research/files/MTI_Broadband_Report_Print.pdf); Nicol Turner-Lee, *The New Era of Broadband and Democracy: Pathways to Digital Inclusiveness*, Joint Center for Political & Economic Studies (Aug. 2009), available at [http://www.jointcenter.org/sites/default/files/upload/research/files/turnerlee\\_0.pdf](http://www.jointcenter.org/sites/default/files/upload/research/files/turnerlee_0.pdf).

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<sup>8</sup> See John Horrigan, *Home Broadband Adoption 2008*, Pew Internet & American Life Project (July 2008), available at [http://www.pewinternet.org/~media/Files/Reports/2008/PIP\\_Broadband\\_2008.pdf](http://www.pewinternet.org/~media/Files/Reports/2008/PIP_Broadband_2008.pdf)

<sup>9</sup> Id.

<sup>10</sup> Id.

<sup>11</sup> Id.

<sup>12</sup> See John Horrigan, *Broadband Adoption and Use in America*, at p. 3, FCC OBI Working Paper Series No. 1 (Feb. 2010), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-296442A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf)

<sup>13</sup> See *Exploring the Digital Nation: Computer and Internet Use at Home*, National Telecommunications & Information Administration, U.S. Dept. of Commerce (Nov. 2011), available at [http://www.ntia.doc.gov/files/ntia/publications/exploring\\_the\\_digital\\_nation\\_computer\\_and\\_internet\\_use\\_at\\_home\\_11092011.pdf](http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_computer_and_internet_use_at_home_11092011.pdf)

<sup>14</sup> See *Exploring the Digital Nation: America's Emerging Online Experience*, NTIA, U.S. Dept. of Commerce (June 2013), available at [http://www.ntia.doc.gov/files/ntia/publications/exploring\\_the\\_digital\\_nation\\_-\\_americas\\_emerging\\_online\\_experience.pdf](http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_-_americas_emerging_online_experience.pdf)

<sup>15</sup> See Joanna Brenner & Lee Rainie, *Pew Internet: Broadband*, Pew Internet & American Life Project (Dec. 2012), available at <http://pewinternet.org/Commentary/2012/May/Pew-Internet-Broadband.aspx>

<sup>16</sup> See Kathryn Zickuhr & Aaron Smith, *Home Broadband 2013*, Pew Internet & American Life Project (Aug. 2013), available at [http://pewinternet.org/~media/Files/Reports/2013/PIP\\_Broadband%202013.pdf](http://pewinternet.org/~media/Files/Reports/2013/PIP_Broadband%202013.pdf)

<sup>17</sup> See Maeve Duggan, & Aaron Smith, *Cell Internet Use 2013*, Pew Internet & American Life Project (September 16, 2013), available at <http://www.pewinternet.org/Reports/2013/Cell-Internet/Summary-of-Findings.aspx>

<sup>18</sup> Id.

<sup>19</sup> Id.

<sup>20</sup> *Supra*, note 16

<sup>21</sup> Id.

<sup>22</sup> See John Horrigan, *Recent Tech Adoption Trends and Implications for the Digital Divide*, Joint Center for Political and Economic Studies (August 2012), available at <http://www.jointcenter.org/research/recent-tech-adoption-trends-and-implications-for-the-digital-divide>,

<sup>23</sup> Id.

<sup>24</sup> Id.

<sup>25</sup> See Kathryn Zickuhr, *Who's Not Online and Why?*, Pew Internet & American Life Project (Sept. 25, 2013), available at <http://www.pewinternet.org/Reports/2013/Non-internet-users.aspx>

<sup>26</sup> Id.

<sup>27</sup> Id.

<sup>28</sup> Id.

<sup>29</sup> Id.

<sup>30</sup> Id.

<sup>31</sup> Id.

<sup>32</sup> See, e.g., Patrick Brogan, *Updated Capital Spending Data Show Continued Significant Broadband Investment in Nation's Information Infrastructure*, at p. 2, chart 1, Research Brief, U.S. Telecom (April 2012), available at [http://www.ustelecom.org/sites/default/files/documents/042012\\_Investment\\_2011\\_Research\\_Brief.pdf](http://www.ustelecom.org/sites/default/files/documents/042012_Investment_2011_Research_Brief.pdf) (observing tens of billions of dollars in annual investment in network infrastructure by ISPs) (“*Updated Capital Spending Data*”).



<sup>33</sup> For an overview, see National Broadband Map, Summarize: Nationwide, <http://www.broadbandmap.gov/summarize/nationwide>.

<sup>34</sup> For recent data, see *Measuring Broadband America*, FCC (Feb. 2013), available at <http://www.fcc.gov/measuring-broadband-america/2013/february> (“*Measuring Broadband America - Feb. 2013*”); *Measuring Broadband America*, FCC (July 2012), available at <http://www.fcc.gov/measuring-broadband-america/2012/july> (“*Measuring Broadband America - July 2012*”); *Measuring Broadband America*, FCC (Aug. 2011), available at <http://www.fcc.gov/measuring-broadband-america/2011/august>. For data from the mid- to late-2000s, see generally *Internet Access Services: Status as of June 30, 2010*, FCC (March 2011), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-305296A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-305296A1.pdf).

<sup>35</sup> See, e.g., Shane Greenstein & Ryan C. McDevitt, *Evidence of a Modest Price Decline in US Broadband Services*, National Bureau of Economic Research, NBER Working Paper 16166 (July 2010), available at [http://www.nber.org/papers/w16166.pdf?new\\_window=1](http://www.nber.org/papers/w16166.pdf?new_window=1).

<sup>36</sup> See National Broadband Map, Summarize: Nationwide, <http://www.broadbandmap.gov/summarize/nationwide>

<sup>37</sup> Updated Capital Spending Data.

<sup>38</sup> *Id.*

<sup>39</sup> See, e.g., *Measuring Broadband America - Feb. 2013*; *Measuring Broadband America - July 2012*.

<sup>40</sup> See generally *Beloved Community* (“...our “digital Beloved Community” envisions a future where everyone has the ability to participate in our digital ecosystem. It exhibits an economy that enables innovative individuals from culturally diverse backgrounds to benefit equally from the technological advancement and innovations they create. Like Dr. King’s dream, the digital Beloved Community gains its strength from empowering every individual and thereby advancing the whole.” *Id.* at p. 1.)

<sup>41</sup> See, e.g., In the Matter of Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992, Reply Comments of MMTC et al., MB Docket No. 05-311 (March 28, 2006), available at <http://mmtconline.org/lp-pdf/MMTCRedliningReply101A8B.pdf> (MMTC, along with dozens of other national civil rights and minority advocacy organizations, calling for protections against redlining, which would have had disproportionately negative impacts on communities of color).

<sup>42</sup> The “historical origins” of the debate, however, can be traced to the *Computer Inquiries*, which were launched in the 1970s and early 1980s to examine “the relationship between traditional “common carriers”...and the emerging data-processing industry.” See JONATHAN E. NUECHTERLEIN AND PHILIP J. WEISER, *DIGITAL CROSSROADS: TELECOMMUNICATIONS LAW AND POLICY IN THE INTERNET AGE* (2<sup>nd</sup> ED.) 188 (MIT 2013) (“DIGITAL CROSSROADS”).

<sup>43</sup> See, e.g., Mark A. Lemley and Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 U.C.L.A. L. Rev. 925 (2001) (arguing in favor of open access policies in order to preserve the “end-to-end” principle, which is at the core of modern conceptions of “network neutrality” and the “open Internet”) (“*End of End-to-End*”).

<sup>44</sup> See, e.g., Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. on Telecomm. & High Tec. L. 141 (2003) (“*Network Neutrality, Broadband Discrimination*”).

<sup>45</sup> See, e.g., *id.*

<sup>46</sup> See, e.g., SavetheInternet.com, *Network Neutrality 101*, <http://www.savetheinternet.com/net-neutrality-101> (providing a list of hypothetical outcomes if network neutrality rules are absent from the marketplace) (“*Network Neutrality 101*”).

<sup>47</sup> See, e.g., Tim Burners-Lee, *Long Live the Web: A Call for Continued Open Standards and Neutrality*, Nov. 22, 2010, *Scientific American*, available at <http://www.scientificamerican.com/article.cfm?id=long-live-the-web&print=yes> (“Although the Internet and Web generally thrive on lack of regulation, some basic values have to be legally preserved.”) (“*Long Live the Web*”).

<sup>48</sup> *Id.*

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<sup>49</sup> Quotes excerpted from speech given by former FCC Chairman William Kennard at *The Cable Show*, 1999, available at <http://transition.fcc.gov/Speeches/Kennard/spwek-921.txt>

<sup>50</sup> *AT&T v. City of Portland*, 43 F.Supp.2d 1146 (U.S.D.C. Or. 1999), *rev'd*, 216 F.3d 871 (9<sup>th</sup> Cir. 2000).

<sup>51</sup> See Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, 17 F.C.C.R. 4798 (2002), *aff'd*, sub nom. *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Serv.*, 545 U.S. 967 (2005) ("*Brand X*").

<sup>52</sup> See *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, 20 FCC Rcd 14,853 (2005); Classification of Broadband Over Power Line Internet Access Service as an Information Service, 21 FCC Rcd 13281 (2006); *In the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, 22 FCC Rcd 5901 (2007).

<sup>53</sup> See, e.g., DIGITAL CROSSROADS at p. 40-82 (discussing this regulatory regime and its evolution in detail).

<sup>54</sup> See Press Release, *FCC Classifies Cable Modem Service as an "Information Service,"* March 14, 2002, FCC, available at [http://transition.fcc.gov/Bureaus/Cable/News\\_Releases/2002/nrcb0201.html](http://transition.fcc.gov/Bureaus/Cable/News_Releases/2002/nrcb0201.html).

<sup>55</sup> See FCC Chairman Michael Powell, *Preserving Internet Freedom: Guiding Principles for the Industry*, at p. 2, Remarks at the Silicon Flatirons Symposium on "The Digital Broadband Migration: Toward a Regulatory Regime for the Internet Age," University of Colorado School of Law, Boulder, Colorado, Feb. 8, 2004, available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-243556A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf).

<sup>56</sup> *Id.* at p. 5.

<sup>57</sup> See *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Policy Statement, 20 FCC Rcd 14986 (2005).

<sup>58</sup> *Id.* at ¶5, fn. 15.

<sup>59</sup> *Id.*

<sup>60</sup> See, e.g., Barbara A. Cherry, *Maintaining Critical Rules to Enable Sustainable Communications Infrastructures*, 24 *Georg. St. U. L. Rev.* 947 (2007) (calling for common-carrier regulation); Susan Crawford, *Transporting Communications*, 89 *Boston U. L.R.* 871 (2009) (same).

<sup>61</sup> See *In the Matter of Broadband Industry Practices*, Notice of Inquiry, at ¶ 3, WC Docket No. 07-52 (rel. April 16, 2007). It should be noted that the FCC in 2005 did mediate a settlement in a case alleging the blocking of VoIP traffic by a small ISP. See *In the Matter of Madison River Communications LLC and Affiliated Companies*, Consent Decree, 20 FCC Rcd 4295 (2005).

<sup>62</sup> See *In the Matters of Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications and Broadband Industry Practices Petition of Free Press et al. for Declaratory Ruling that Degrading an Internet Application Violates the FCC's Internet Policy Statement and Does Not Meet an Exception for "Reasonable Network Management"*, Petition for Declaratory Ruling, FCC, File No. EB-08-IH-1518 (filed Nov. 1, 2007), available at [http://transition.fcc.gov/broadband\\_network\\_management/fp\\_et\\_al\\_nn\\_declaratory\\_ruling.pdf](http://transition.fcc.gov/broadband_network_management/fp_et_al_nn_declaratory_ruling.pdf). Comcast countered that its network management practices vis-à-vis BitTorrent were necessary to assure a reliable and consistent user experience for the vast majority of users who did not engage in such bandwidth-heavy uses. Indeed, a small handful of users engaging in such online behavior (e.g., peer-to-peer swapping of massive data files) have discernible impacts on the overall online experience for all users. At peak times, such uses can cause congestion, which degrades the speeds and reliability of online connections for all users. Over time, ISPs and others have experimented with a range of business models – including data caps and tiered pricing – to more accurately price data consumption.

<sup>63</sup> See *In the Matter of Preserving the Open Internet*, Notice of Proposed Rulemaking, at ¶ 6, GN Docket No. 09-191 (rel. Oct. 22, 2009).

<sup>64</sup> See generally *id.*

<sup>65</sup> Open Internet Order at ¶ 88.

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<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at ¶ 54.

<sup>68</sup> *See, e.g.,* Comments of the National Organizations at p. 14.

<sup>69</sup> Open Internet Order at ¶ 77.

<sup>70</sup> *Id.* at ¶ 88.

<sup>71</sup> *Id.* at ¶ 96.

<sup>72</sup> *Id.* at ¶¶ 112-114.

<sup>73</sup> *Id.* at ¶ 113.

<sup>74</sup> *See Preserving the Open Internet; Final Rule*, 76 Fed. Reg. 59,191-59,235 (Sept. 23, 2011), available at <http://www.gpo.gov/fdsys/pkg/FR-2011-09-23/html/2011-24259.htm>.

<sup>75</sup> *See, e.g.,* Nate Anderson, *Verizon Sues to Halt FCC's Net Neutrality Rules*, Oct. 2, 2011, *Ars Technica*, available at <http://arstechnica.com/tech-policy/news/2011/10/verizon-sues-to-halt-fccs-net-neutrality-rules.ars>. The case is *Verizon v. FCC*, No. 11-1355 (D.C. Cir.).

<sup>76</sup> *See, e.g.,* John Eggerton, *Court Sets Oral Argument Date for Network Neutrality Challenge*, June 25, 2013, *Multichannel News*, available at <http://www.multichannel.com/news-article/court-sets-oral-argument-date-network-neutrality-challenge/144114> (reporting that oral arguments in the case are scheduled for Sept. 9, 2013).

<sup>77</sup> *See Preserving the Open Internet*, Report and Order, 25 FCC Rcd 17905, at ¶ 18 (2010).

<sup>78</sup> *See* data analyzed in Figure 2. *See supra* note, 7.

<sup>79</sup> *Supra*, note 22.

<sup>80</sup> *See* Ev Ehrlich, *Shaping the Digital Age: A Progressive Broadband Agenda* (p. 24). Washington, DC: Progressive Policy Institute (July 2013), available at [http://www.progressivepolicy.org/wp-content/uploads/2013/07/07.2013-Ev-Ehrlich\\_Shaping-the-Digital-Age\\_A-Progressive-Broad-Agenda.pdf](http://www.progressivepolicy.org/wp-content/uploads/2013/07/07.2013-Ev-Ehrlich_Shaping-the-Digital-Age_A-Progressive-Broad-Agenda.pdf).

<sup>81</sup> *Id.*

<sup>82</sup> *Supra*, note 35.

<sup>83</sup> *See* Nicholas Economides and Joacim Tag, *Network Neutrality on the Internet: A Two-Sided Market Analysis*, *Information Economics and Policy*, Vol. 24, 2012, NET Institute Working Paper No. 07-45; NYU Law and Economic Research paper 0-70; NYU Working Paper No 2451/26057 (August 2012), available at SSRN: <http://ssrn.com/abstract=101921> or <http://dx.doi.org/10.2139/ssrn.1019121>

<sup>84</sup> *Supra*, note 34.

<sup>85</sup> *See* Nicol Turner-Lee, Brian Smedley and Joseph Miller, *Minorities, Mobile Broadband and the Management of Chronic Diseases*, Joint Center for Political and Economic Studies (April 2012), available at <http://www.jointcenter.org/research/minorities-mobile-broadband-and-the-management-of-chronic-diseases>.

<sup>86</sup> For a discussion of additional potential harms, *see generally* Ev Ehrlich, *Shaping the Digital Age: A Progressive Broadband Agenda*, Progressive Policy Institute (July 2013), available at [http://www.progressivepolicy.org/wp-content/uploads/2013/07/07.2013-Ev-Ehrlich\\_Shaping-the-Digital-Age\\_A-Progressive-Broad-Agenda.pdf](http://www.progressivepolicy.org/wp-content/uploads/2013/07/07.2013-Ev-Ehrlich_Shaping-the-Digital-Age_A-Progressive-Broad-Agenda.pdf).

<sup>87</sup> *See, e.g.,* Austin Schlick, *A Third-Way Legal Framework for Addressing the Comcast Dilemma*, FCC (rel. May 6, 2010), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-297945A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-297945A1.pdf) (proposing a common carrier-like regulatory framework for broadband).

<sup>88</sup> *See Fact Sheet: Update Of E-Rate For Broadband In Schools And Libraries*, FCC (July 2013), available at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2013/db0719/DOC-32288A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0719/DOC-32288A1.pdf).

<sup>89</sup> For additional discussion and analysis of these and other impediments, *see* National Broadband Plan; Barriers to Broadband Adoption. *See also* Modernizing the E-rate Program for Schools and Libraries, Notice of Proposed

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Rulemaking, WC Docket No. 13-184, FCC 13-100 (rel. July 23, 2013), available at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2013/db0723/FCC-13-100A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0723/FCC-13-100A1.pdf) (“E-rate NPRM 2013”).

<sup>90</sup> See, e.g., Valerie Strauss, *U.S. High School Graduation Rates See Big Minority Gains – Analysis*, June 6, 2013, Wash. Post, available at <http://www.washingtonpost.com/blogs/answer-sheet/wp/2013/06/06/u-s-high-school-graduation-rate-sees-big-minority-gains-analysis/>; *NAEP 2012: Trends in Academic Progress*, National Center for Education Statistics, U.S. Dept. of Education (June 2013), available at <http://nces.ed.gov/nationsreportcard/subject/publications/main2012/pdf/2013456.pdf>.

<sup>91</sup> For an historical overview of these data, see *Enrollment rates of 18- to 24-year-olds in degree-granting institutions, by level of institution and sex and race/ethnicity of student: 1967 through 2010*, National Center for Education Statistics, U.S. Dept. of Education, available at [http://nces.ed.gov/programs/digest/d11/tables/dt11\\_213.asp](http://nces.ed.gov/programs/digest/d11/tables/dt11_213.asp). See also Anthony P. Carnevale and Jeff Strohl, *Separate & Unequal: How Higher Education Reinforces the Intergenerational Reproduction of White Racial Privilege*, Georgetown University Public Policy Institute (July 2013), available at <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/Separate%26Unequal.FR.pdf> (arguing that “The racial and ethnic stratification in educational opportunity entrenched in the nation’s K-12 education system has faithfully reproduced itself across the full range of American colleges and universities.” *Id.* at p. 7).

<sup>92</sup> *E-rate NPRM 2013* at ¶ 1 (noting that “there is a growing chorus of calls to build on the success of the E-rate program by modernizing the program and adopting clear forward-looking goals aimed at efficiently and effectively ensuring high-capacity connections to schools and libraries nationwide.”)

<sup>93</sup> Leveraging public-private partnerships for these purposes should be pursued whenever possible. See, e.g., Statement of Acting Chairwoman Mignon L. Clyburn, *Re: Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, available at <http://www.fcc.gov/article/doc-322284a2>.

<sup>94</sup> See, e.g., *National Broadband Plan* at p. 246-247; *The Impact of Broadband on Education*, Report to the U.S. Chamber of Commerce (Dec. 2010), available at [http://www.uschamber.com/sites/default/files/about/US\\_Chamber\\_Paper\\_on\\_Broadband\\_and\\_Education.pdf](http://www.uschamber.com/sites/default/files/about/US_Chamber_Paper_on_Broadband_and_Education.pdf).

<sup>95</sup> See, e.g., CFY, Impact, <http://cfy.org/impact/> (providing several case studies of how effective this organization’s particular approach to using broadband to bolster learning at home, and engaging parents in the process, has been over the last few years).

<sup>96</sup> See, e.g., *National Broadband Plan* at p. 197-222 (discussing the impacts of broadband on healthcare).

<sup>97</sup> For additional examples and discussion, see *Policy Framework for Empowering Women with Broadband* at p. 8-14; *The Impact of Broadband on Telemedicine*, Report to the U.S. Chamber of Commerce (April 2009), available at [http://www.nyls.edu/user\\_files/1/3/4/30/83/BroadbandandTelemedicine.pdf](http://www.nyls.edu/user_files/1/3/4/30/83/BroadbandandTelemedicine.pdf).

<sup>98</sup> See, e.g., Joseph Conn, Report Finds Telehealth Services are Cost Effective, Clinically Successful, July 11, 2013, ModernHealthcare.com, available at <http://www.modernhealthcare.com/article/20130711/NEWS/307119951> (reporting on the results of several studies demonstrating the many positive impacts of telehealth programs in the U.S. and abroad).

<sup>99</sup> See generally *CDC Health Disparities and Inequalities Report – United States, 2011*, Morbidity and Mortality Weekly Report, Vol. 60, CDC (Jan. 2011), available at <http://www.cdc.gov/mmwr/pdf/other/su6001.pdf> (providing a broad array of data regarding minority health disparities). See also U.S. Dept. of Health & Human Services, Office of Minority Health: African American Profile, <http://minorityhealth.hhs.gov/templates/browse.aspx?lvl=2&lvlid=51> (providing recent data regarding incidences of major chronic diseases among African Americans); U.S. Dept. of Health & Human Services, Office of Minority Health: Hispanic/Latino Profile, <http://minorityhealth.hhs.gov/templates/browse.aspx?lvl=2&lvlid=54> (providing recent data regarding incidences of major chronic diseases among Hispanics/Latinos).

<sup>100</sup> *Id.*

<sup>101</sup> For a review of recent data regarding adoption trends and the benefits of such robust wireless adoption among communities of color, see James E. Prieger, *The Broadband Digital Divide and the Benefits of Mobile Broadband*

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for Minorities, Pepperdine University School of Public Policy Working Paper No. 45 (April 2013), available at <http://digitalcommons.pepperdine.edu/cgi/viewcontent.cgi?article=1044&context=sppworkingpapers>.

<sup>102</sup> *Supra*, note 81.

<sup>103</sup> Policy Framework for Empowering Women with Broadband at p. 13.

<sup>104</sup> *See, e.g., Barriers to Broadband Adoption* at p. 36-50 (identifying many of these barriers).

<sup>105</sup> For additional discussion, *see Medical Licensure and Practice Requirements*, American Telemedicine Association (June 2011), available at <http://www.americantelemed.org/docs/default-source/policy/ata-policy-on-state-medical-licensure-and-practice-requirements.pdf>.

<sup>106</sup> *Barriers to Broadband Adoption* at p. 36-50.

<sup>107</sup> The best recent example of this dynamic is the emergence of the “app economy,” which has generated tens of thousands of new jobs in just a few years. *See* Michael Mandel, *Where the Jobs Are: The App Economy*, TechNet (Feb. 2012), available at <http://www.technet.org/wp-content/uploads/2012/02/TechNet-App-Economy-Jobs-Study.pdf>.

<sup>108</sup> *See, e.g., Universal Broadband Adoption* at p. 28-38.

<sup>109</sup> *See, e.g., The African American Labor Force in the Recovery*, U.S. Dept. of Labor (Feb. 2012), available at <http://www.dol.gov/sec/media/reports/BlackLaborForce/BlackLaborForce.pdf> (analyzing employment trends among African Americans and comparing them to those of Hispanics and Whites).

<sup>110</sup> *See* Rakesh Kochhar *et al.*, *Wealth Gap Rises to Record Highs Between Whites, Blacks, Hispanics*, at p. 1, Pew Research Center (July 2011), available at [http://www.pewsocialtrends.org/files/2011/07/SDT-Wealth-Report\\_7-26-11\\_FINAL.pdf](http://www.pewsocialtrends.org/files/2011/07/SDT-Wealth-Report_7-26-11_FINAL.pdf).

<sup>111</sup> *See, e.g., Alicia Robb, Access to Capital Among Young Firms, Minority-owned Firms, Women-owned Firms, and High-tech Firms*, Report to the Small Business Administration Office of Advocacy (April 2013), available at <http://www.sba.gov/sites/default/files/files/rs403tot%282%29.pdf>.

<sup>112</sup> *See, e.g., David Honig, Digital Literacy Beyond Social Media*, July 10, 2012, Huffington Post, available at [http://www.huffingtonpost.com/david-honig/digital-literacy-beyond-s\\_b\\_1662456.html](http://www.huffingtonpost.com/david-honig/digital-literacy-beyond-s_b_1662456.html).

<sup>113</sup> *See* Dorrissa Griffin and Kristal Lauren High, *Minorities and High Tech Employment*, at p. 3, MMTTC (July 2011), available at <http://mmtconline.org/lp-pdf/Jobs%20Report%20-%20Minorities%20&%20High%20Tech%20Employment.pdf> (“*Minorities and High Tech Employment*”).

<sup>114</sup> *See generally id.* (providing a comprehensive analysis of these various impediments and offering an array of recommendations for overcoming them).

<sup>115</sup> *See, e.g., Dan Nakaso, Asian Workers Now Dominate Silicon Valley Tech Jobs*, Nov. 30, 2012, San Jose Mercury News, available at [http://www.mercurynews.com/business/ci\\_22094415/asian-workers-now-dominate-silicon-valley-tech-jobs](http://www.mercurynews.com/business/ci_22094415/asian-workers-now-dominate-silicon-valley-tech-jobs) (reporting that, between 2000 and 2010, “African-American and Hispanic tech workers each saw slight decreases: Positions held by African-American tech workers fell from 2.8 percent to 2.3 percent; those held by Hispanic workers dropped from 4.6 percent to 4.2 percent.”) This dynamic is not confined to Silicon Valley. Indeed, it is observable across the nation’s high tech workforce. *See Minorities and High Tech Employment* at p. 6.

<sup>116</sup> *Minorities and High Tech Employment* at p. 22-23 (discussing how factors like isolation and stereotyping contribute to this dynamic).

<sup>117</sup> *See, e.g., Eric Lipton and Somini Sengupta, Latest Product From Tech Firms: An Immigration Bill*, May 5, 2013, N.Y. Times, available at [http://www.nytimes.com/2013/05/05/us/politics/tech-firms-take-lead-in-lobbying-on-immigration.html?ref=todayspaper&\\_r=1&](http://www.nytimes.com/2013/05/05/us/politics/tech-firms-take-lead-in-lobbying-on-immigration.html?ref=todayspaper&_r=1&).

<sup>118</sup> *See, e.g., The White House, Educate to Innovate*, <http://www.whitehouse.gov/issues/education/k-12/educate-innovate>.

<sup>119</sup> *Minorities and High Tech Employment* at p. 27-33 (discussing these and other recommendations in depth).

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<sup>120</sup> See, e.g., David Honig, *STEM Jobs are the Future, But What Role Will Minorities Play?*, Dec. 14, 2011, Broadband & Social Justice Blog, available at <http://broadbandandsocialjustice.org/2011/12/stem-jobs-are-the-future-but-what-role-will-minorities-play/>.

<sup>121</sup> See Scott Mackey, *Wireless Taxes and Fees Continue Growth Trend*, at p. 321, Tax Analysts Special Report, State Tax Notes, Oct. 29, 2012, available at <http://www.ksefocus.com/wordpress-content/uploads/2012/11/mackey-state-tax-notes.pdf>. Nebraska has the highest combined wireless tax burden in the country; Oregon – at 7.67 percent – has the lowest.

<sup>122</sup> Id.

<sup>123</sup> See, e.g., *id.* at p. 329.

<sup>124</sup> See Nicol Turner-Lee et al., *The Social Cost of Wireless Taxation: Wireless Taxation and its Consequences for Minorities and the Poor*, at p. 9, Joint Center for Political & Economic Studies (Nov. 2011), available at <http://www.jointcenter.org/sites/default/files/upload/research/files/The%20Social%20Cost%20of%20Wireless%20Taxation.pdf> (“The Social Cost of Wireless Taxation”).

<sup>125</sup> See, e.g., Sharon Weston Broome, *Press Statement: Comprehensive Reform of Wireless Taxation Needed Now*, National Organization of Black Elected Legislative Women (2011), available at [http://files.ctia.org/pdf/NOBEL\\_Nobel\\_Women\\_Press\\_Statement\\_on\\_Wireless\\_Taxation.pdf](http://files.ctia.org/pdf/NOBEL_Nobel_Women_Press_Statement_on_Wireless_Taxation.pdf).

<sup>126</sup> The FCC is already engaged in many of these activities as part of its comprehensive overhaul of the Universal Service Fund and the intercarrier compensation framework. However, litigation and other roadblocks are impeding the swift resolution of many of these issues.

<sup>127</sup> See, e.g., *H.R.2309 - Wireless Tax Fairness Act of 2013*, <http://beta.congress.gov/bill/113th-congress/house-bill/2309>.

<sup>128</sup> *The Social Cost of Wireless Taxation* at p. 11.

<sup>129</sup> See *Preserving the Open Internet*, Report and Order, 25 FCC Rcd 17905, at ¶ 12 (2010) (describing its open Internet rules as “prophylactic”) (“Open Internet Order”).