Responses to Congressman G.K. Butterfield

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Witness, Inclusion in the Tech Sector Hearing, March 6, 2019

1. **Please discuss the ways in which expanding broadband access to rural communities and communities of color influences diversity in STEM and promotes economic opportunity.**

    High-speed broadband access enables people in rural communities to engage the robust digital economy, especially in rural areas which improve quality of life for people of color. In rural communities, the availability of high-speed broadband networks can enable a plethora of applications, including distance learning through online courses and certifications, telemedicine and virtual workforce training. Internet access is also a game changer in the areas of employment and education. Broadband access can also facilitate more robust and real-time connections to caregivers, medical practitioners and others who are responsible for maintaining regular communications with local patients. Online job seekers can find and connect with more diverse job opportunities through telecommuting and videoconferencing, or other online freelance work.

2. **Is there any evidence that a lack of broadband access for children can result in different outcomes with respect to education and job opportunities in adulthood?**

    Fourteen percent of school-age students have access to only one device at home, according to a study conducted by the ACT Center for Equity in Learning. Further, the majority of these youth come from under-served or historically-disadvantaged communities. When broken down by race and geography, 26 percent of American Indians/Alaskan Natives, 22 percent of African Americans, 19 percent of Latinos, and 14 percent of Native Hawaiian/Pacific Islanders have access to one device at home, compared to eight percent of whites and Asians, according to the same study. Among rural residents, 24 percent have access to only one device, compared to 14 percent of people who live in urban areas.

    Broadband access at any age matters and is correlated with educational achievement. Without access, students are not prepared for 21st century jobs, which now require an understanding of new technology. They also continue to reside in digital deserts because they are unable to exercise these skills within our communities due to the lack of opportunities.

    These statistics point to the widening homework gap, where students are disadvantaged because they do not have the critical technology to finish school assignments. Further, when a device is present within the home, there may be other family members seeking to use it, including other siblings. Thus, the trajectory toward poverty continues itself and gets worst because digital access is now equated with being self-sufficient.

    Finally, the quality of broadband service matters for students with in-home access. A report from the Joan Ganz Cooney Center (2016) found that while 94 percent of low-income families had access, they were also subjected to insufficient speeds and bandwidth or unable to maintain the monthly expenses for being connected.

For families who have to often choose between broadband and bread, this juxtaposition furthers inequalities and makes it harder for recovery, especially as digital access defines how individuals live, learn and earn.

3. **How does consistent access to broadband affect the likelihood that an individual will gain the skills necessary to become employed in the technology sector?**

A conversation on the future of work for people of color, especially those with limited online connectivity, is without merit if we don't first work to close the digital divide. According to the Pew Research Center, 13 percent of Americans are still not online, despite the growing adoption and use of online resources and tools. Broadband access allows for increased employment opportunities overall, in and out of the tech industry. Modern day technologies have the ability to import training courses to under-served communities, where there is a mismatch between updated workforce training and available opportunities. When digital access is limited or non-existent, there is a cost to digital inclusion, which maintains the systemic inequalities facing the poor and under-skilled.

4. **In your testimony, you spoke about the important role that historically black colleges and universities (HBCUs) have in preparing minority students for careers in STEM and the challenges that they face moving forward. How does the investment of resources in HBCUs expand the tech workforce pipeline?**

As mentioned in my testimony, it is imperative that Congress provide the relevant appropriations to fund HBCUs. Investments in these institutions not only brings the necessary infrastructure (e.g., computers, printers and internet) to their students, but also enables these institutions to offer more robust courses, which are speaking to existing and emerging job opportunities. HBCUs have been found to graduate more confident and agile students of color. These areas are important in technology fields which will require different task management and leadership skills. In other words, graduates from HBCUs will be in charge of creating, marketing, disseminating, evaluating and in some cases, revamping products and services birthed in the digital economy. As more consumers of color engage the online space, they need professionals, researchers, advocates and others who understand their consumer preferences, lifestyles and needs. Diversity matters in today's digital economy, especially in instances where the internet has dismantled barriers to entry, such as having high levels of capital.

HBCUs are in most need of funding in the areas of research and development, experimental technologies and even public policy, which can position them as a major source of recruitment for tech jobs. Moreover, faculty endowments may help to transform many of these institutions into exemplary centers of excellence, especially if they partner with the tech sector and effectively engage the philanthropic community.

Going to the source of diversity is the first step when filling vacant or under-represented tech jobs. But, expanding the capacity of HBCUs to have the premiere programs for research and design makes for a more spectacular incubator of talent for available digital jobs, especially those in the creator space.