

Office of Minority Broadband Initiatives 2022 Report

October 2022





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Executive Summary

This report, mandated by the Consolidated Appropriations Act of 2021 (CAA), details the work of the National Telecommunications and Information Administration's (NTIA) Office of Minority Broadband Initiatives (OMBI) in expanding access and identifying barriers to high-speed internet service for students, faculty, and staff at Historically Black Colleges and Universities (HCBU), Tribal Colleges and Universities (TCU), and Minority Serving Institutions (MSI) and within anchor communities.

Part 1: The Office of Minority Broadband Initiatives


OMBI was established within NTIA's Office of Internet Connectivity and Growth (OICG) in August 2021 to fulfill the mandate in the CAA to promote equitable broadband access and adoption at HBCUs, TCUs, MSIs, and in their surrounding anchor communities. OMBI is guided by the following vision:

To achieve digital equity for minority communities across the United States by supporting and building capacity in HBCUs, TCUs, and MSIs as catalysts for the expansion of broadband access.

2021-2022 Accomplishments

 **Administer the Connecting Minority Communities (CMC) Pilot Program**

OMBI issued a Final Rule for implementation of the CMC Pilot Program and began distributing \$268 million of the CMC Pilot Program funds to eligible HBCUs, TCUs, MSIs, and eligible entities in anchor communities to expand availability, access, affordability, and adoption of high-speed internet.

 **Collaborate with Federal, State, Tribal, and Anchor Institution Stakeholders**

OMBI conducted community outreach and coordinated with public and private sector stakeholders to promote broadband opportunities at HBCUs, TCUs, MSIs, and their anchor communities.

 **Build Capacity of Anchor Institutions and their Communities**

OMBI prepared over 2,000 participants as potential applicants for the CMC Pilot Program through a series of webinars and continued to lead the HBCU College Partnership Program (CPP), which strengthens OMBI's relationship with HBCUs and builds capacity of institutions, students, and anchor communities through dedicated technical assistance.



Part 2: Barriers to Broadband Access at HBCUs, TCUs, MSIs, and Anchor Communities

Despite the importance of participation in today's digitally dependent world, access to affordable, reliable high-speed internet is still far from ubiquitous and its benefits are not equitably shared, highlighting the urgent need to work toward digital equity in the United States. While there have been promising improvements, new data collected through the NTIA Internet Use Survey highlights persistent disparities in internet subscriptions and device usage along lines of race, ethnicity, and income. Lack of access to high-speed internet prevents minority communities from unlocking social and economic opportunities, and from fully participating in the digital economy.

HBCU, TCU, and MSI anchor institutions experience a wide range of challenges with internet access, particularly around availability, affordability, and adoption. **Availability** refers to the existence of the infrastructure needed to have a reliable high-speed connection to the internet. **Affordability** refers to the ability to afford the costs associated with accessing the internet, including for service, devices, and fees. **Adoption** refers to the possession of the necessary digital skills, resources, and support to meaningfully use the internet.

OMBI identified barriers to access at HBCUs, TCUs, and MSIs for students, faculty, and staff and within anchor communities through qualitative analysis of CMC applications and secondary research. CMC applicants noted barriers across availability, affordability, and adoption, including:

	Anchor Institutions	Anchor Communities
Availability Barriers	<ul style="list-style-type: none"> • Outdated or overloaded infrastructure on campus • A lack of necessary infrastructure on campus due to remote locations or challenging topography 	<ul style="list-style-type: none"> • Inadequate or unreliable infrastructure • A lack of infrastructure due to remote locations or challenging topography
Affordability Barriers	<ul style="list-style-type: none"> • High cost of necessary devices for students 	<ul style="list-style-type: none"> • High cost of internet service
Adoption Barriers	<ul style="list-style-type: none"> • Limited student access to the technology and devices necessary to fully participate in their education • Limited technical/IT support capacity for students • Knowledge and language barriers to digital literacy for students 	<ul style="list-style-type: none"> • Knowledge and language barriers to digital literacy for anchor community residents

Both anchor institutions and communities share similar barriers, highlighting the importance of OMBI's approach to building capacity within institutions.



Part 3: Looking Ahead

Recommendations and Next Steps

To continue pursuing its vision of digital equity, OMBI is committed to the following next steps:

- 1** | Continue to build capacity of anchor institutions and their communities.
- 2** | Explore lessons learned from the Connecting Minority Communities Pilot Program to develop best practices to expand digital access and adoption.
- 3** | Coordinate resources and efforts to support the Administration's Internet for All grant programs.
- 4** | Explore partnerships with relevant digital equity stakeholders in support of anchor institutions and their communities.

This inaugural report represents OMBI's initial insights into the barriers to access faced by HBCUs, TCUs, and MSIs, and within their anchor communities. Future years will build on this baseline understanding and dig deeper into these challenges. OMBI looks forward to building on this year's successes in pursuit of expanded internet access and digital equity across the country.

Report Introduction

Minority communities in the United States have long faced a disproportionate lack of access to affordable, reliable high-speed internet service, primarily due to barriers related to availability, affordability, and adoption.¹ A leader in computer and internet use research since 1994, the National Telecommunications and Information Administration (NTIA) has found evidence of persistent disparities in digital access and adoption based on race and ethnicity. Communities of color, including tribal communities, have long been impacted by the digital divide, which has resulted in limited economic and social opportunities.

The COVID-19 pandemic prompted an unprecedented reliance on the internet, particularly as students transitioned to online learning, exacerbating barriers to access and further widening the digital divide. This challenge was especially acute for many of the millions of students at Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), and Minority Serving Institutions (MSIs) across the United States.

In response to this challenge, the Department of Commerce's NTIA works to close the digital divide and achieve digital equity across the United States. NTIA's efforts focus largely on expanding internet access and adoption in the United States, such as through programs established by the Infrastructure Investment and Jobs Act (IIJA), including the Broadband Equity, Access, and Deployment (BEAD) Program, the Digital Equity Act Programs, and the Middle Mile Grant Programs, to connect Americans to high-speed, affordable, and reliable internet.² As required by the Consolidated Appropriations Act (CAA) of 2021, NTIA established the Office of Minority Broadband Initiatives (OMBI) to specifically promote equitable broadband access and adoption at qualifying anchor institutions—HBCUs, TCUs, and MSIs—and within their anchor communities.

Legislative Excerpt from the Consolidated Appropriations Act | OMBI Annual Report

The CAA mandates that NTIA annually: “submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Energy and Commerce of the House of Representatives a report” that:

- **Details the work of the Office** in expanding access to fixed and mobile internet access service at HBCUs, TCUs, and MSIs for students, faculty, and staff and within anchor communities for the year covered by the report
- **Identifies barriers to providing access to internet service at HBCUs, TCUs, and MSIs,** including to students, faculty, and staff, and within anchor communities³

¹ Specific definitions for broadband availability, affordability, and adoption are described in detail later in the report. Broadband availability refers to the existence of the infrastructure needed to have a high-speed connection to the internet that is always available. Broadband affordability refers to the ability to afford the costs associated with accessing broadband Internet, including for service, devices, and fees. Broadband adoption refers to the possession of the necessary digital skills, resources, and support to meaningfully use the Internet.

² Infrastructure Investment and Jobs Act of 2021. Pub. L. No. 117-58, 135 Stat. 429 (2021).

³ Consolidated Appropriations Act (CAA), 2021, Pub. L. No. 116-260, 134 Stat. 1182 (2020).



The inaugural 2022 OMBI Report is broken into three sections:

Part 1

The Office of Minority Broadband Initiatives

Part 1 of the report introduces the Office of Minority Broadband Initiatives and its vision, outlines who the Office serves, and describes the Office's accomplishments over the past year across its three operational pillars:

- Administer Connecting Minority Communities (CMC) Pilot Program
- Collaborate with Federal, State, Tribal, and Anchor Institution Stakeholders
- Build Capacity of HBCUs, TCUs, MSIs, and their Anchor Communities

Part 2

Barriers to Internet Access at HBCUs, TCUs, MSIs, and Anchor Communities

Part 2 presents insights on the barriers to internet access faced by these institutions and communities. Part 2 is divided into two sections:

- Broadband Access Overview
- Barriers to Broadband Access

Part 3

Looking Ahead

Part 3 presents recommendations and next steps to address the barriers to internet access and to further OMBI's mission and vision.



OMBI Authorizing Legislation

The Consolidated Appropriations Act of 2021(Section 901(b)(3)) mandates that OMBI:

- Collaborate with Federal agencies that carry out broadband internet access service support programs to determine how to expand access to broadband internet access service and other digital opportunities in anchor communities.
- Collaborate with State, local, and Tribal governments, HBCUs, TCUs, MSIs, and stakeholders in the communications, education, business, and technology fields to—
 - Promote initiatives relating to broadband internet access service connectivity for anchor communities; and digital opportunities for anchor communities;
 - Develop recommendations to promote the rapid, expanded deployment of broadband internet access service to unserved HBCUs, TCUs, MSIs, and anchor communities, including to students, faculty, and staff; as well as senior citizens and veterans who live in anchor communities;
 - Promote activities that would accelerate the adoption of broadband internet access service (including any associated equipment or personnel necessary to access and use that service, such as modems, routers, devices that combine a modem and a router, Wi-Fi hotspots, and connected devices) by students, faculty, and staff of HBCUs, TCUs, and MSIs; and within anchor communities;
 - Upon request, provide assistance to HBCUs, TCUs, MSIs, and leaders from anchor communities with respect to navigating Federal programs dealing with broadband internet access service;
 - Promote digital literacy skills, including by providing opportunities for virtual or in-person digital literacy training and education;
 - Promote professional development opportunity partnerships between industry and HBCUs, TCUs, and MSIs to help ensure that information technology personnel and students have the skills needed to work with new and emerging technologies with respect to broadband internet access service; and
 - Explore how to leverage investment in infrastructure with respect to broadband internet access service to:
 - Expand connectivity with respect to that service in anchor communities and by students, faculty, and staff of HBCUs, TCUs, and MSIs;
 - Encourage investment in communities that have been designated as qualified opportunity zones; and
 - Serve as a catalyst for adoption of that service, to promote job growth and economic development and deployment of advanced technologies.

Part of OMBI's authorizing legislation in the CAA, section 902, 134 Stat. at 2125 also mandates the establishment of the Connecting Minority Communities (CMC) Pilot Program to promote broadband access in and around HBCUs, TCUs, and MSIs. The purpose of the program is to provide grants to eligible recipients in anchor communities for the purchase of broadband internet access service or any eligible equipment or to hire and train technology personnel.



PART 1:

The Office of Minority
Broadband Initiatives

Office Overview

Introduction

OMBI was established within NTIA's Office of Internet Connectivity and Growth (OICG) to fulfill the mandate in the CAA to promote equitable broadband access and adoption at HBCUs, TCUs, MSIs, and in anchor communities.⁴ OICG is responsible for coordinating a whole-of-government approach to ensure all Americans have access to high-speed, affordable, and reliable internet, in support of the Department of Commerce's vision of digital equity and individual economic and social opportunity. OICG focuses its work on four interconnected areas: funding broadband infrastructure and digital inclusion efforts, including through grant programs established by the CAA and IJJA; leveraging data for decision making; facilitating interagency, state, tribal, and private sector coordination; and building capacity of communities. In doing so, the Office works directly to "expand affordable, high-quality broadband to every American," a key objective outlined by the Secretary of Commerce in the Department's 2022-2026 Strategic Plan.⁵

OMBI will build upon NTIA's longtime commitment to expand connectivity and digital opportunities for minority communities. In 2019, NTIA launched the Minority Broadband Initiative (MBI), which worked with HBCUs to promote digital inclusion on campuses and enhance awareness of broadband deployment grant opportunities. MBI also partnered with federal agencies, local governments, and the private sector to lay the groundwork for potential expansion of high-speed internet networks in communities surrounding participating HBCU campuses, particularly throughout the rural South. MBI had two main strategic policy objectives:

- Convene a forum where stakeholders could explore options to leverage HBCU broadband infrastructure to connect neighboring communities of vulnerable populations; and
- Use broadband infrastructure as a catalyst for adoption to result in job growth, economic development, and deployment of advanced mobile technologies primarily in economically distressed communities of the rural South.



The **U.S. Department of Commerce** seeks to promote job creation and economic growth by ensuring fair trade, providing the data necessary to support commerce and constitutional democracy, and fostering innovation.



The **National Telecommunications and Information Administration (NTIA)** is the Executive Branch agency responsible for advising the President on telecommunications and information policy issues.

⁴ As defined in the Consolidated Appropriations Act of 2021, an anchor community is "any area that...is not more than 15 miles from a historically Black college or university, a Tribal College or University, or a Minority-serving institution; and has an estimated median annual household income of not more than 250 percent of the poverty line."

⁵ "Department of Commerce Strategic Plan 2022 - 2026," U.S. Department of Commerce (U.S. Department of Commerce), accessed May 19, 2022, <https://www.commerce.gov/files/department-commerce-strategic-plan-2022-2026>.



OMBI will expand upon the work of MBI in building key stakeholder relationships in order to explore internet expansion opportunities across HBCU campuses and continue NTIA's efforts to collaborate with federal agencies; state, local and tribal governments; HBCUs, TCUs, and MSIs; and stakeholders in the communications, education, business, and technology fields to promote access and adoption.⁶

OMBI's Vision

OMBI's work is based on a deep understanding of the importance of community anchor institutions—defined as “place-based, mission-driven entities such as hospitals, universities, and government agencies that leverage their economic power alongside their human and intellectual resources to improve the long-term health and social welfare of their communities”—in an effort to close the digital divide.⁷ It is often efficient and productive to coordinate with these institutions, because they are force multipliers for economic prosperity in minority communities, where they can produce countless jobs for their local and regional economies.⁸ This outcome is observed specifically with the expansion of internet access, which, when deployed at community anchor institutions, “stimulates economic growth, promotes digital equity, and encourages residential broadband adoption.”⁹ In its first year and in line with its organizational mandate, OMBI focused on minority-serving institutions of higher education—HBCUs, TCUs, and MSIs—that serve as the heartbeat of many minority communities. These schools are uniquely positioned as anchor institutions in their communities, given their long-standing investment in minority students and their communities.

OMBI's Vision

To achieve **digital equity** for minority communities across the United States by supporting and building capacity in **HBCUs, TCUs, and MSIs** as catalysts for the **expansion of broadband access.**

⁶ Consolidated Appropriations Act, 2021.

⁷ “UCSF Anchor Institution Initiative,” UCSF Anchor Institution Initiative (The Regents of the University of California), accessed May 16, 2022, <https://anchor.ucsf.edu/#:~:text=Anchor%20institutions%20are%20place%2Dbased,social%20welfare%20of%20their%20communities>.

⁸ “NTIA Minority Broadband Initiative,” NTIA (NTIA, November 15, 2019), https://www.ntia.gov/files/ntia/publications/ntia_minority_broadband_initiative.pdf.

⁹ “Connecting Anchor Institutions: A Broadband Action Plan.” Schools, Health; Libraries Broadband (SHLB) Coalition. Benton Foundation, July 2016. <https://www.shlb.org/action-plan#:~:text=The%20SHLB%20Coalition%20developed%20%E2%80%9CConnecting,broadband%20needs%20of%20anchor%20institutions>.



In pursuit of its vision, the work of OMBI is guided by the following three operational pillars, which collectively seek to promote broadband access and digital inclusion¹⁰ for minority communities and their anchor institutions:

Administer the Connecting Minority Communities (CMC) Pilot Program

to provide funding for internet access, technology, and personnel in an effort to close the digital divide at HBCU, TCU, and MSI anchor institutions and within their communities.

Collaborate with Federal, State, Tribal, and Anchor Institution Stakeholders

to promote collaboration, knowledge sharing, and thought leadership to improve internet access and adoption among minority communities.

Build Capacity of Anchor Institutions and their Communities

by providing technical assistance to empower applicants, grantees, and collaborating entities with the appropriate tools and resources to effectively implement the CMC Pilot Program or other grants in minority communities.

¹⁰“National Digital Inclusion Alliance Definitions,” National Digital Inclusion Alliance (National Digital Inclusion Alliance), accessed June 1, 2022, <https://www.digitalinclusion.org/definitions/>. According to the National Digital Inclusion Alliance, digital inclusion is defined as “the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs).”

2021 – 2022 Accomplishments

Administer the Connecting Minority Communities (CMC) Pilot Program

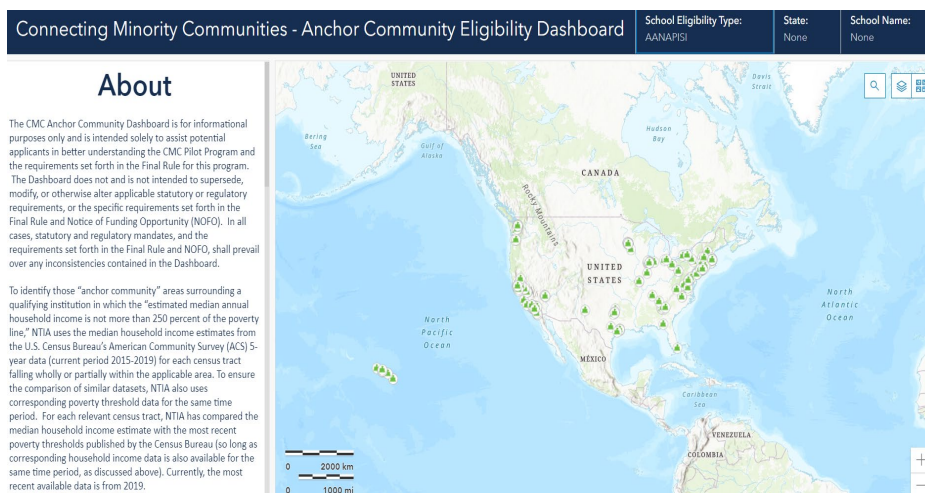
Grant programs provide necessary funds and resources to minority communities to close the digital divide. In its first year, OMBI issued a Final Rule for implementation,¹¹ and managed the CMC Pilot Program to expand broadband availability, access, affordability, and adoption at HBCUs, TCUs, MSIs, and anchor communities. The \$268M CMC Pilot Program provided grant funding to eligible HBCUs, TCUs, MSIs, and eligible entities in anchor communities.

The program received over 200 applications requesting over \$833M in funding for programs that include: purchasing internet service or eligible equipment; hiring and training information technology personnel; facilitating educational instruction and learning, including through remote instruction; and operating a Minority Business Enterprise or a tax-exempt 501(c)(3) organization.

NTIA thoroughly reviewed applications using a three-stage process: Initial Administrative and Eligibility Review of Complete Application Packets, Merit Review, and Programmatic Review. Applications were reviewed according to the criteria set forth in Section V of the Notice of Funding Opportunity (NOFO) which was released in August 2021, with applications due in December 2021.¹²

To help potential applicants determine and visualize CMC Pilot Program eligibility, NTIA developed the [CMC Anchor Community Eligibility Dashboard](#), which lists eligible recipient institutions by type and shows qualifying Census tracts within a 15-mile radius for each institution.¹³ The purpose of the dashboard is to help potential applicants understand the program and the requirements set forth in the Final Rule.

CMC Anchor Community Eligibility Dashboard



¹¹ See Connecting Minority Communities (CMC) Final Rule (June 15, 2021), https://www.ntia.doc.gov/files/ntia/publications/fr_connecting_minority_communities_pilot_program.pdf.

¹² See Connecting Minority Communities (CMC) Notice of Funding Opportunity (NOFO) (August 3, 2021), <https://broadbandusa.ntia.doc.gov/sites/default/files/2021-08/CMC%20Pilot%20Program%20NOFO%20%28FINAL%208-3-2021%29.pdf>.

¹³ "NTIA Grant Program: Connecting Minority Communities Webinar, Session 3," BroadbandUSA (National Telecommunications and Information Administration), accessed May 18, 2022, <https://broadbandusa.ntia.doc.gov/news/latest-news/ntia-grant-program-connecting-minority-communities-webinar-session-3>.



As of the publication of this report, OMBI awarded five grants as part of the CMC Pilot Program. These grants, totaling more than \$20 million, will be used to subsidize high-speed internet, conduct digital skills trainings, and increase access to equipment to promote remote learning, provide telehealth and telemedicine access, facilitate cybersecurity training and opportunities, furnish technology hubs, and foster telework, entrepreneurship, and economic development. Awardees used this funding in diverse ways, including in support of digital literacy, telehealth/telemedicine, cybersecurity, workforce training/economic growth, STEM/STEAM education, entrepreneurship/small business, internships/apprenticeships, community technology hubs/upgrades, and classroom technology upgrades. Awards will be made on a rolling basis and can be found on the CMC [website](#). Additional details on the awards as of the publication of this report can be found in the Appendix.

Moving forward, OMBI will continue to identify resources and funding to support capacity building for the institutions and anchor communities with the goal of ensuring availability of affordable, reliable high-speed internet services and to promote digital equity and inclusion.

CAA AUTHORIZATION

\$268M Authorized and funded by the CAA

PROGRAM INTEREST

200+ Applications received

\$833M+ Funding requested

AWARDS

5 Awardees as of Report
Publication

\$20M+ Funding awarded as of Report
Publication

Collaborate with Federal, State, Tribal, and Anchor Institution Stakeholders

The targeted groups for the CMC Pilot Program and OMBI activities have been left behind due to historic underinvestment. Therefore, it is incumbent upon OMBI to collaborate with a wide variety of stakeholders to build trust in communities, support planning, and ensure equitable grant outcomes for these groups. In its first year, OMBI conducted community outreach and coordinated public and private sector stakeholders to promote internet opportunities at HBCUs, TCUs, MSIs, and their anchor communities. OMBI bolstered its community outreach efforts, conducting over 50 unique private and public sector engagements to increase awareness of the CMC Pilot Program.

OMBI continued to conduct its Minority Broadband Initiative outreach efforts, including its participation in interagency initiatives, such as the White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity through HBCUs. As a member of the Initiative's interagency working group, OMBI participates in conferences on HBCUs and hosts a small group on "Smart HBCUs" for agencies with interest in the intersection between HBCUs and connectivity. Additionally, OMBI has longstanding relationships with national advocacy organizations and consortiums that work directly with HBCUs, TCUs, and MSIs and provide important insight into the communities these institutions aim to serve.

OMBI also supported OICG's re-launch of the Digital Equity Leaders Network (DELN), a community of practitioners focused on increasing digital equity, digital inclusion, and access at the local, county, state, and community levels. The DELN provides a forum to strengthen policy and program connections among local and state jurisdictions as well as federal agencies to improve funding coordination, align policies, and strengthen collaboration across stakeholders.¹⁴ As a result of increased outreach, participation in the DELN has blossomed to 153 participants who join from 50 cities, 11 counties, 22 states and 2 territories, and 1 regional planning commission.

Moving forward, OMBI will leverage its strong relationships across HBCU, TCU, and MSI anchor institutions and their anchor communities to bolster coordination with the BEAD Program, Digital Equity Act Programs, Tribal Broadband Connectivity Program, and the Middle Mile Grant Program. These new NTIA programs provide \$48 billion in grant funding to address a range of issues to expand infrastructure and promote digital equity, inclusion, and adoption, helping to close the digital divide in the United States. OMBI also continues to facilitate professional development partnerships with private and public sectors and leverage private investment in high-speed internet infrastructure in anchor communities. NTIA will engage with interagency partners across the federal government to ensure that students at HBCUs, MSIs, and TCUs have access to all available broadband resources for which they are eligible (e.g., the Federal Communications Commission's Affordable Connectivity Program).

153

Participants in DELN

50

**Cities Represented
in DELN**

24

**States and territories
represented in DELN**

¹⁴ "Digital Equity Leaders Network," BroadbandUSA (NTIA, March 2022), https://broadbandusa.ntia.doc.gov/sites/default/files/2022-03/updated_bbusa_deln_factsheet_031122_Final.pdf.

Build Capacity of Anchor Institutions and their Communities

Minority communities are often in need of technical assistance due to a lack of resources, a major challenge to closing the digital divide and achieving digital equity. OMBI is at the forefront of addressing this challenge. In the past year, NTIA hosted a series of 14 webinars on the CMC Pilot Program between the months of May to November 2021, to help institutions prepare their applications to the program. These webinars have prepared over 2,000 attendees as potential applicants for the program.

Additionally, OMBI continued the HBCU College Partnership Program (CPP). Initiated in 2019, the CPP provides students at HBCUs the training and resources necessary to work with local communities to develop a standard Broadband Assessment Report and/or Deployment and Adoption Plan. The program has worked with eight HBCUs to build capacity in local communities, including Elizabeth City State University (SC), Xavier University (OH), Stillman College (AL), Grambling University (LA), South Carolina State (SC), Jackson State University (MS), Alabama A&M (AL), and Atlanta Technical College (GA). The CPP strengthens OMBI's relationship with HBCUs and builds capacity of institutions, students, and anchor communities through dedicated technical assistance.

Moving forward, OMBI will continue to identify resources and funding to support capacity building for institutions and anchor communities to ensure the availability of high-speed, affordable, and reliable internet services and to promote digital equity and inclusion.

8

**HBCU Participants in
the College
Partnership Program**

14

Webinars

2000+

Webinar Attendees



Who We Serve: The Landscape of HBCUs, TCUs, MSIs, and Anchor Communities

HBCUs, TCUs, and MSIs provide historically underserved and marginalized Americans with the opportunity to receive high-quality, affordable education that uplifts them and their communities. These institutions “represent an opportunity to enter a system that supports [minority students] success...centered around the idea that all students can succeed in higher education if the institution meets students where they are.”¹⁵ HBCUs, TCUs, and MSIs have provided unique educational, cultural, and social opportunities to their students and communities, many of which have historically faced racial discrimination and limited economic opportunities.¹⁶

HBCUs, TCUs, and MSIs were formed to provide equal access to educational and economic opportunities for minority students and students from low-income backgrounds. The Higher Education Act of 1965 was signed into law by President Lyndon Johnson to strengthen the educational resources and opportunities for higher education colleges and universities. The Act highlighted a national interest in supporting institutions that historically served students “who have been denied access to postsecondary education because of race or national origin.” The Act recognized HBCUs as institutions established prior to 1964 “whose principal mission was, and is, the education of Black Americans.”¹⁷

The establishment of TCUs followed shortly thereafter, with the first TCU, Dine College, opening in 1968.¹⁸ TCUs became federally recognized in 1978 through the Tribally Controlled Colleges and Universities Assistance Act (TCCUAA), which authorized federal funding for TCUs.¹⁹

MSIs are designated by the percentages of minority students they serve. MSIs include Hispanic Serving Institutions (HSIs), Asian American Native American Pacific Islander-Serving Institutions (AANAPISIs), Alaska Native Serving Institution and Native Hawaiian Serving Institutions (ANNHs), Native American-Serving Nontribal Institutions (NASNTIs), and Predominantly Black Institutions (PBIs). MSIs often enroll students from different backgrounds, and, as a result, each can qualify as more than one type of MSI. Definitions of HBCUs, TCUs, and MSIs are included in Figure 1.²⁰

¹⁵ “Investing in Economic Mobility,” Committee on Education and Labor (Committee on Education and Labor, September 2019), https://edlabor.house.gov/imo/media/doc/Ed_and_Labor_HBCU_TCU_and_MSI_Report_FINAL.pdf.

¹⁶ Minority Serving Institutions Program,” U.S. Department of the Interior (U.S. Department of the Interior), accessed May 18, 2022, <https://www.doi.gov/pmb/eeo/doi-minority-serving-institutions-program#:~:text=MSIs%20are%20institutions%20of%20higher,whereas%20others%20serve%20urban%20neighborhoods>.

¹⁷ Higher Education Act of 1965, Pub. L. No. 89-329, sec. 322(2) (Nov. 8, 1965), as amended, Pub. L. No. 117-103 (March 15, 2022). See also, 20 USC § 1061(2).

¹⁸ “About AIHEC,” AIHEC (AIHEC, 2022), <http://www.aihec.org/who-we-are/index.htm>.

¹⁹ Tribally Controlled Colleges and Universities Assistance Act of 1978, Pub. L. No. 95-471, 92 Stat. 1325.

²⁰ “Higher Education Act of 1965”; “Hispanic-Serving Institutions (HSIs): 2019-20 Fact Sheet,” Institute of Education Sciences (Institute of Education Sciences), accessed April 14, 2022, <https://files.eric.ed.gov/fulltext/ED614622.pdf>; Lorelle Espinosa, Kent McGuire, and Leigh Jackson, eds., “MSIs and the Students They Serve,” in *Minority Serving Institutions: America's Underutilized Resource for Strengthening the Stem Workforce* (Washington, DC: National Academies Press, 2019), <https://nap.nationalacademies.org/read/25257/chapter/5>; “The Case for AANAPISIs,” APIA Scholars (APIA Scholars), accessed April 13, 2022, <https://apiascholars.org/wp-content/uploads/2021/07/AANAPISI-Two-Pager-FINAL.pdf>; “What Is an HBCU?,” White House Initiative on Advancing Educational Equity Excellence and Economic Opportunity through Historically Black Colleges and Universities (U.S. Department of Education), accessed April 13, 2022, <https://sites.ed.gov/whhbcu/one-hundred-and-five-historically-black-colleges-and-universities/>.



Figure 1

Definitions of HBCUs, TCUs, and MSIs

Definitions | HBCUs, TCUs, MSIs

A **Historically Black College and University (HBCU)** is “any historically black college or university that was established prior to 1964, whose principal mission was, and is, the education of black Americans, and that is accredited by a nationally recognized accrediting agency or association...”

A **Tribal College and University (TCU)** is an institution that either I) qualifies for funding under the Tribally Controlled Colleges and Universities Assistance Act of 1978 or the Navajo Community College Act or II) is cited in section 532 of the Equity in Educational Land-Grant Status Act of 1994.

Minority Serving Institutions (MSIs) include:

An **Asian American and Native American Pacific Islander Serving Institution (AANAPISI)** is an institution with an undergraduate enrollment of at least 10% Asian and Pacific Islander American students and with at least 50% of students from low-income backgrounds.

An **Alaska Native and Native Hawaiian Serving Institution (ANNH)** is an institution with either at least 20% Alaska Native students or at least 10% Native Hawaiian students.

A **Hispanic-Serving institution (HSI)** is an “accredited, degree-granting public or private not-for-profit institution of higher education with 25% or more total undergraduate Hispanic full-time equivalent student enrollment.”

A **Native American-Serving Nontribal Institution (NASNTI)** is an institution that are not affiliated with American Indian and Native Alaskan tribes but still enroll at least 10% of Native American undergraduate students and receive funding to serve Native American students.

A **Predominantly Black Institution (PBI)** is an institution that serves at least 1,000 undergraduate students, has at least 50% low-income or first-generation students, and enrolls at least 40% African American students.

While HCBUs, TCUs, and MSIs share similar missions, the institutions themselves are diverse, varying in size, location, student demographics, and funding opportunities, among other factors. This variation results in a broad set of internet-related challenges, demanding a multifaceted approach to close the digital divide. For example, larger institutions with robust endowments or technical support staff may experience and prioritize different challenges related to internet access than a smaller institution with less funding or limited technical support staff.

OMBI recognizes the unique role of HCBUs, TCUs, and MSIs and will continue to partner with these institutions in various ways to address the needs of students, faculty, staff as well as the millions of households, businesses, and organizations in the surrounding anchor communities.

A Legacy of Historic Underinvestment

A federal commitment to close the digital divide at HCBUs, TCUs, and MSIs is critical as these institutions have faced years of chronic underinvestment compared to other degree-granting institutions. HCBUs, TCUs, and MSIs often rely on public funding, which is frequently disbursed inequitably.

HCBUs have faced declining federal investment for years. Public and private HCBUs experienced the steepest declines in federal funding per FTE student between 2003 and 2015, a trend especially pronounced for private HCBUs which saw a stunning 42% decline in federal funding per FTE student.²¹ Compounding this challenge, public HCBUs rely on federal, state, and local dollars more heavily than non-HCBUs schools—54% to 38%, respectively—because many of them lack access to alternative sources for economic security, such as through tuition increases, private gifts, or endowments.²² (For instance, HCBUs endowments are at least 70% less than non-HCBUs.²³) With this reliance on public funding, many HCBUs may have to make financial tradeoffs that non-HCBUs institutions may not face.

Many public TCUs and HSIs also struggle to access public funds. Though most TCUs are public institutions, they also face funding challenges because many states are not required to fund institutions on reservations or tribally controlled land.²⁴ The Hispanic Association of Colleges and Universities (HACU) found that HSIs only receive an average of 68 cents for every federal dollar going to all other colleges and universities annually.²⁵ As a result, many of these institutions have faced years of underinvestment, stymying efforts to invest in digital and technical capabilities needed to close the digital divide.

²¹ Krystal Williams and BreAnna L. Davis, “Public and Private Investments and Divestments in HCBUs,” American Council on Education (American Council on Education, January 2019), <https://www.acenet.edu/Documents/Public-and-Private-Investments-and-Divestments-in-HCBUs.pdf>.

²² “Investing in Economic Mobility”

²³ Williams and Davis, “Public and Private Investments”

²⁴ “Investing in Economic Mobility”

²⁵ “About Hispanic-Serving Institutions (HSIs),” Hispanic Association of Colleges and Universities (Hispanic Association of Colleges and Universities), accessed May 18, 2022, <https://hacuadvocates.net/hacu/abouthsis?0#:~:text=HSIs%20Today,2018%2C%20and%20569%20in%202019.>

The Outsized Impact of HBCUs, TCUs, and MSIs

Despite chronic underinvestment, HBCUs, TCUs, and MSIs are especially successful at educating historically underserved students. They tend to be more affordable than many other institutions, benefitting students from socioeconomically disadvantaged backgrounds. The average net price for low-income students attending four-year HBCUs, TCUs, and MSIs is roughly 30% lower than mainstream institutions, and the schools often provide culturally relevant educational experiences and a supportive learning environment.²⁶ Research also indicates that HBCUs and MSIs are more successful at boosting low-income students to the top of the income distribution than traditional institutions.²⁷ Across the country, HBCUs, TCUs, and MSIs play a unique role in setting students up for success.

These institutions have an outsized impact on the education of their target student populations, offering significant educational and economic opportunities to people of color or those who have otherwise been historically underserved. For example, while HBCUs represent about 3% of two-year and four-year public and private institutions that participate in federal student financial aid programs, they award 17% of all bachelor's degrees earned by Black students. HBCUs have also awarded 24% of the bachelor's degrees earned by Black students in STEM fields.²⁸ Similarly, HSIs represent 16% of all higher education institutions yet serve 65% of all Hispanic student, which is particularly important as Hispanics are much more likely to be first-generation college students than other racial or ethnic groups and are also significantly underrepresented in four-year bachelor's degree programs.²⁹ The positive, life-changing impact HBCUs, TCUs, and MSIs have on historically underserved students is vital, and these benefits reverberate into communities all across the country.

The Role of Institutions in Connecting Communities

HBCUs, TCUs, and MSIs play an important role serving the critical broadband and technology-related needs of their communities. Many students, faculty, staff, and anchor communities rely on HBCUs, TCUs, and MSIs for internet connectivity and for the appropriate digital tools and resources necessary to succeed in a digital economy. A recent study from the Joint Center for Political and Economic Studies found that HBCUs in the rural south are trusted institutions for their communities and played a vital role in increasing access to telehealth and vaccination services throughout the pandemic. The study notes that, without high-speed internet, HBCUs would not be able to provide these critical services to their communities.³⁰ In another example, the American Indian Higher Education Consortium (AIHEC) found that TCUs offer internet to Americans on rural Tribal lands who lack access: 31 of 35 accredited TCUs serve as community libraries.³¹

Ensuring HBCUs, TCUs, and MSIs can provide equal educational access has cascading positive effects on the institutions and their anchor communities. OMBI will work with these institutions to empower their students, faculty, and staff, equip them to help close the digital divide, and ultimately support them to achieve digital equity in their communities.

²⁶ "Investing in Economic Mobility"

²⁷ "Investing in Economic Mobility"

²⁸ Williams and Davis, "Public and Private Investments"

²⁹ "About Hispanic-Serving Institutions (HSIs)"; "Factsheets: Latino Students," PNPI (Postsecondary National Policy Institute, September 19, 2021), <https://pnpi.org/latino-students/>.

³⁰ Dominique Harrison, "Affordability & Availability: Expanding Broadband in the Black Rural South" (Joint Center for Political and Economic Studies, October 2021), <https://jointcenter.org/wp-content/uploads/2021/10/Affordability-Availability-Expanding-Broadband-in-the-Black-Rural-South.pdf>.

³¹ "Tribal Colleges and Universities: Broadband & Infrastructure Needs," American Indian Higher Education Consortium (AIHEC, March 2022), http://www.aihec.org/what-we-do/docs/FY23/TCU%20Infrastructure%20Priorities_3.11.22.PM.pdf.

Students and Communities Served Today

Together, over 1,000 institutions that qualify as HBCUs, TCUs, or MSIs, as defined in the CMC Pilot Program NOFO, serve approximately 8.5 million unique students.³² Across the country, 101 HBCUs serve an estimated 295,000 students and 36 TCUs serve an estimated 16,000 students. Based on the Department of Education 2021 Eligibility Matrix, there are over 1,000 unique institutions that qualify as at least one type of MSI, serving more than 8.1 million unique students. Of these millions of students, many are eligible for Federal Pell Grants, which are awarded only to undergraduate students with exceptional financial need and who have not earned a college degree.³³ The high percentage of Pell-eligible students illustrates the significant commitment of HBCUs, TCUs, and MSIs to the education of historically underserved students. Figure 2 shows the breakdown of institutions that qualify as each type of MSI, the number of students enrolled in each type of institution, and the average percentage of Pell-eligible students for that institution type.³⁴

Figure 2
Key Statistics on HBCUs, TCUs, and MSIs

Institution Type	HBCU	TUCU	HSI	AANAPISI	ANNH	NASNTI	PBI
# of Eligible Institutions	101	36	572	333	72	37	73
# of Students Enrolled	~295K	~16K	~5.2M	~4.2M	~112K	~90K	~377K
% Pell Eligible Students (Average)	64%	52%	44%	30%	50%	44%	52%

³² The Department of Education 2021 Eligibility Matrix determines institutions' eligibility as a Minority-Serving Institution. Schools defined as eligible or potentially eligible by the eligibility matrix in a given category are designated as MSIs for the purposes of this report. The National Center for Education Statistics' (NCES) College Navigator tool provide the latest list of HBCUs and TCUs. These two sources combined represent the latest list of HBCU, TCU, and MSI anchor institutions and their locations, consistent with the approach outlined in the Connecting Minority Communities Pilot Program NOFO.

U.S. Department of Education Office of Postsecondary Education, 2021 Eligibility Matrix, (February 7, 2022), distributed by the U.S. Department of Education,

<https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww2.ed.gov%2Fabout%2Foffices%2Flist%2Fope%2Fidues%2F2021eligibilitymatrix.xlsx&wdOrigin=BROWSELINK;>

College Navigator. National Center for Education Statistics. Accessed June 21, 2022. <https://nces.ed.gov/collegenavigator/>.

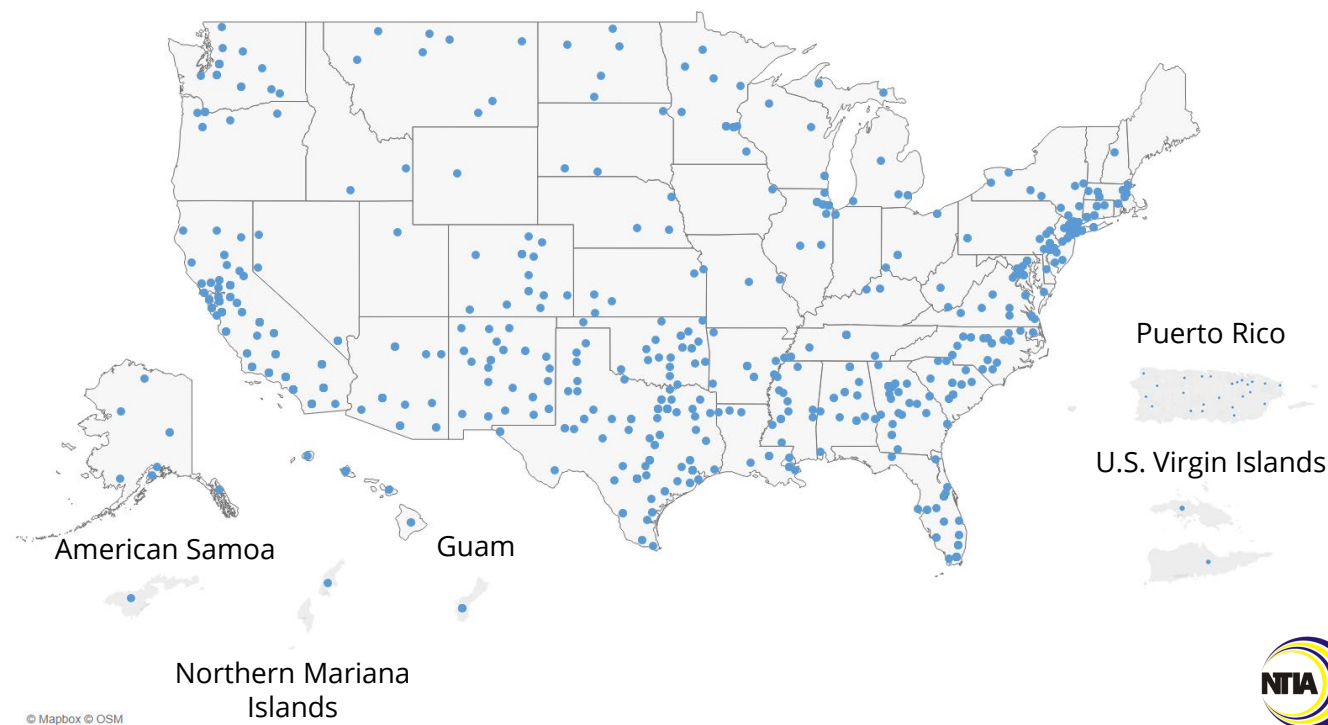
³³ "Federal Pell Grants," Federal Student Aid (Department of Education), accessed May 18, 2022, <https://studentaid.gov/understand-aid/types/grants/pell>.

³⁴ Some institutions are eligible for more than one MSI designation by the Department of Education, which accounts for the discrepancy between the institution-specific count in Figure 2 and the number of unique institutions and students served.

These institutions provide benefits to students from a wide variety of backgrounds. In fact, non-Black students made up 24% of enrollment at HBCUs in 2020.³⁵ Similarly, although HSIs enroll two-thirds of all Hispanic undergraduate students, the undergraduate enrollment of HSIs is strikingly diverse: 41.4% of students are Asian American, 35.2% of students are Native Hawaiian and Pacific Islander, 23.8% of students are Black, and 16.4% of students are non-Hispanic White.³⁶ Finally, TCUs represent students from more than 250 federally recognized Indian tribes. While the enrolled undergraduate and graduate student population in Tribal Colleges is 79.1% American Indian or Alaska Native, it is also 14.6% White, and includes a small percentage of students from other racial or ethnic groups.³⁷

HBCUs, TCUs, and MSIs have a unique ability to reach a wide, diverse population across the United States within their anchor communities. These institutions are in 440 counties and county-equivalents across 54 states and U.S. territories, touching every region of the country, as shown in Figure 3.³⁸

Figure 3
Locations of HBCUs, TCUs, and MSIs³⁹



³⁵ “Historically Black Colleges and Universities,” National Center for Education Statistics (NCES), accessed April 14, 2022, <https://nces.ed.gov/fastfacts/display.asp?id=667>.

³⁶ “Hispanic-Serving Institutions Quick Facts,” Hispanic Association of Colleges and Universities (HACU), accessed May 18, 2022, https://www.hacu.net/images/hacu/conf/2022CapForum/ResourcesMenu/2022HSI_QuickFactsSheet.pdf.

³⁷ “Tribal Colleges,” Data USA, accessed April 21, 2022, <https://datausa.io/profile/university/tribal-colleges#about>;

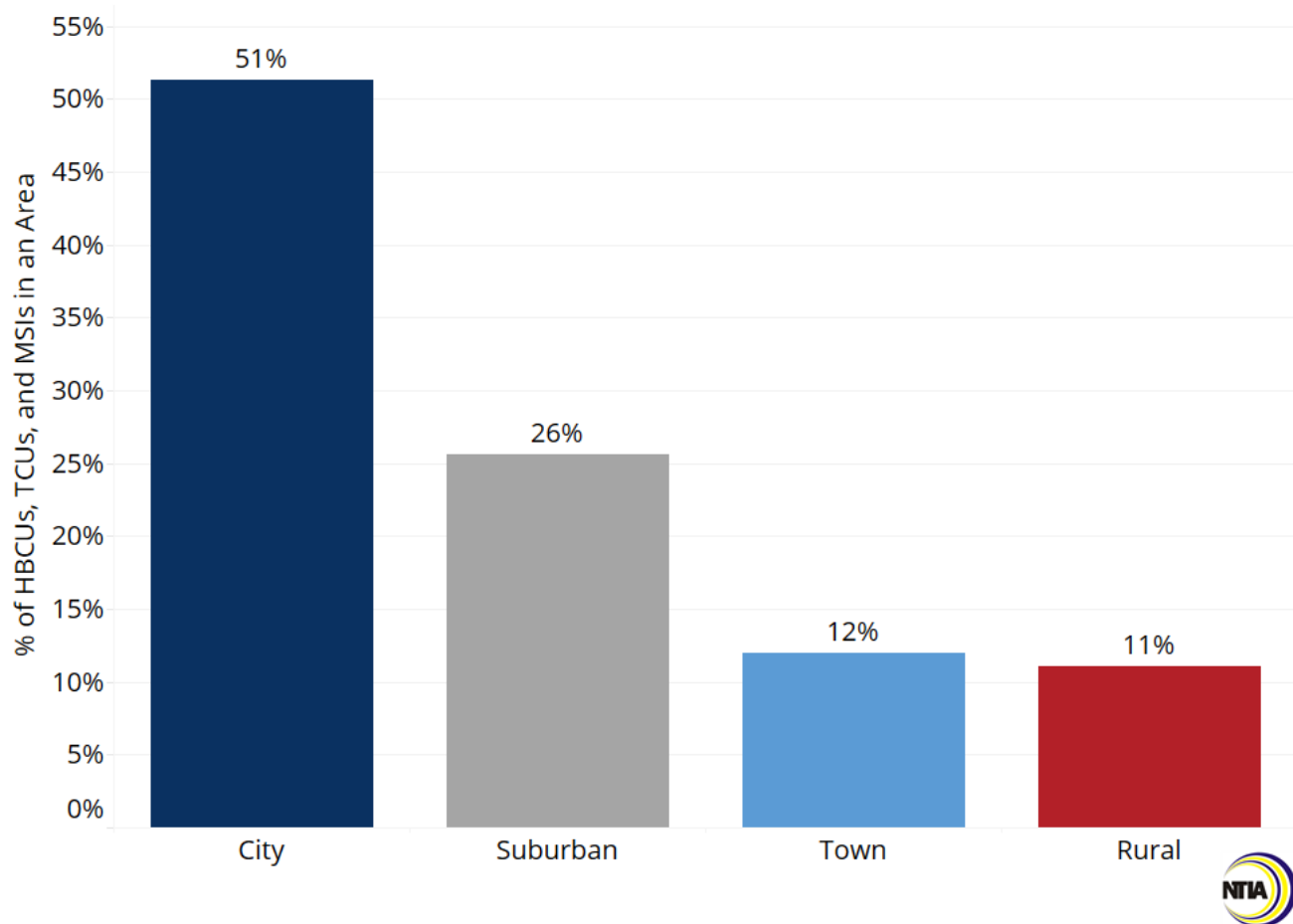
³⁸ All county-level population, race, and ethnicity data in this section is based on the 2016-2020 ACS, which does not collect data on territories other than Puerto Rico. The count of counties and equivalents (in this case, the counties containing an HBCU, TCU, or MSI), however, includes those in territories that ACS does not report on.

³⁹ 2021 Eligibility Matrix; College Navigator.

The National Center for Education Statistics (NCES) classifies all territories in the United States into four locale classification types using standard urban and rural designations defined by Census: City, Suburban, Town, and Rural.⁴⁰ Each type is divided into three subtypes based on population size or proximity to populated areas. For example, cities and suburbs are both in urbanized areas, with the latter being a territory outside a principal city. Towns and rural areas are outside an urbanized area, but towns are inside an urban cluster whereas rural territories are not.

While a slight majority of these institutions are in cities, they are also present in areas classified as suburban, town, or rural. Based on data from the NCES, 51% of all HBCUs, TCUs, and MSIs are in cities; another 26% are classified as suburban; 12% are classified as town; and 11% are classified as rural, as shown in Figure 4. Comparatively, 22% of locales in the United States are classified as cities while 24% are classified as suburban; 26% are classified as town; and 28% are classified as rural. At the same time, there is geographic variation depending on the institution type. For instance, 51% of tribal-serving institutions—including TCUs, NASNTIs, and ANNHs—are in locales classified as rural and 30% are classified as town. In comparison, 8% of HBCUs are in locales classified as rural and 17% are classified as town.

Figure 4
Geographic Breakdown of Counties Containing HBCUs, TCUs, or MSIs



⁴⁰ Geographic analysis utilized locality data from [NCES](#). NCES classifies all territory in the U.S. into four types: City (territory inside an urbanized area and inside a principal city), Suburban (territory outside a principal city and inside an urbanized area), Town (territory inside an urban cluster), and Rural (territory outside an urbanized area and urban cluster). These classifications rely on standard urban and rural designations defined by the U.S. Census Bureau. Island Areas that are not counted by the Census do not receive a locale classification and are thus excluded from this analysis.

The potential reach and impact of these institutions is significant. Counties with an HBCU, TCU, or MSI include over half of all residents in the states, DC, and Puerto Rico, as shown in Figure 5.

Roughly 35 million more U.S. residents live in counties that contain an HBCU, TCU, or MSI than those who live in counties without one of these institutions. Moreover, the communities surrounding these institutions are more racially and ethnically diverse than the United States overall.⁴¹ While non-Hispanic Whites are the largest racial and ethnic group in the United States overall, 54% of the population in counties containing an HBCU, TCU, or MSI identify in minority racial and ethnic categories, as shown in Figure 6.

HBCUs, TCUs, and MSIs have a long history of serving and uplifting a large, diverse set of stakeholders all over the United States and they continue that legacy today. Because they have achieved a high level of trust in their communities and are adept at coordinating resources on the local level, HBCUs, TCUs, and MSIs play a crucial role in connecting the disconnected and closing the digital divide.

Figure 5
Populations for Counties with HBCUs, TCUs, or MSIs Compared to All Other U.S. Counties

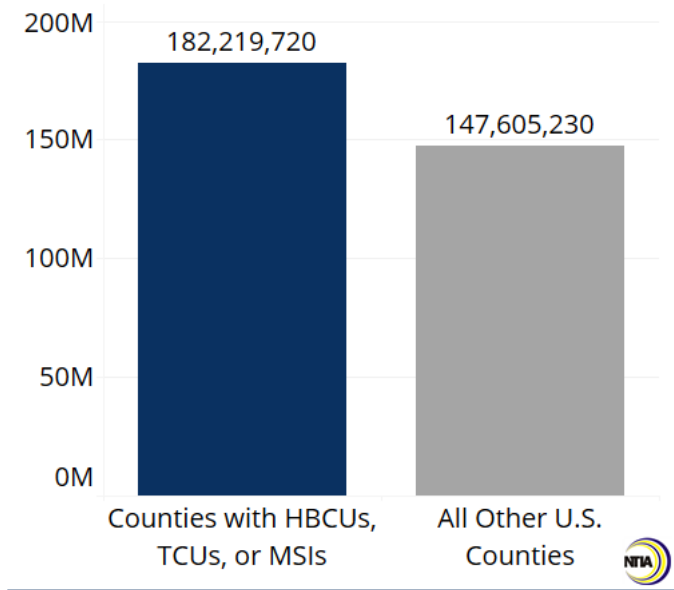
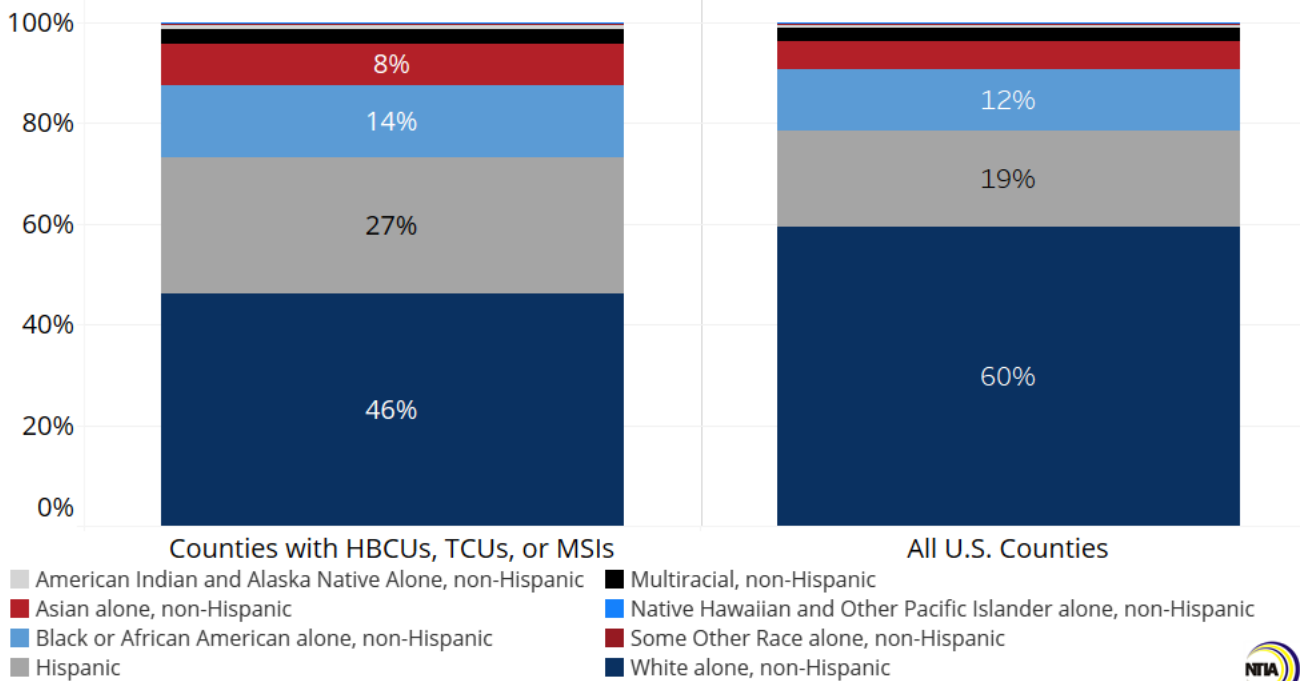


Figure 6
Race and Ethnicity of Counties Containing an HBCU, TCU, or MSI Compared to All U.S. Counties



⁴¹ Analysis for county population and demographics was conducted using data from detailed table B03002 (“Hispanic or Latino origin by Race”) in the 2016–2020 5-Year American Community Survey.

PART 2:

Barriers to Broadband Access
at HBCUs, TCUs, MSIs, and
Anchor Communities

In this inaugural OMBI Report, OMBI sought to identify the barriers to providing internet access to students, faculty, and staff at HBCU, TCU, and MSI anchor institutions, and within their anchor communities. Part II includes the following two components:

- **Broadband Access Overview** introduces OMBI’s understanding of access and its three main components: availability, affordability, and adoption.
- **Barriers to Broadband Access** presents the research findings, including highlighting new NTIA data on the persistent barriers to closing the digital divide and insights into barriers to access across availability, affordability, and adoption faced by HBCUs, TCUs, MSIs, and their anchor communities.

Research Sources

OMBI used a combination of findings from the following sources to provide a baseline assessment of barriers faced by institutions and communities.

- **NTIA Internet Use Survey:** Since 1994, NTIA has regularly partnered with the U.S. Census Bureau to collect data on computer and internet use in the United States. The NTIA Internet Use Survey, which is fielded as a supplement to the Census Bureau’s Current Population Survey, compiles information on the devices and technologies Americans use to go online, locations of internet use, online activities, and challenges they face in using the internet. Early editions of the survey informed landmark NTIA studies that popularized the term “digital divide.” NTIA and other researchers continue to use the survey to explore internet policy issues, including the challenges faced by racial and ethnic minorities, low-income Americans, seniors, and other groups in accessing and using the internet. The [Data Central](#) section of NTIA’s website serves as a hub for NTIA Internet Use Survey resources, including the Data Explorer visualization tool, a repository of blog posts with NTIA’s analyses, and a Research Center containing full datasets, documentation, and sample code to guide outside researchers. The Survey was most recently fielded in November 2021; findings from that survey are included in this report and serve as the first comprehensive dataset on the state of internet use since the onset of the COVID-19 pandemic.
- **CMC Application Analysis:** OMBI anonymized and analyzed responses to the CMC Pilot Program applications to understand the barriers reported on by CMC applicants. Since applicants were not asked a set of specific questions pertaining to their barriers to access, all findings are observed and are not representative—while many institutions may note a particular barrier, the lack of mention of that barrier in another institutions’ application does not indicate that such a barrier does not exist for that institution. Thus, due to the nature of information available, findings from CMC applications were not used to indicate overall pervasiveness of barriers to access across the pool of applicants.
- **Open-Source Research:** OMBI synthesized findings from academic studies; reports from the public, private, and nonprofit sectors; national advocacy organization-led surveys of HBCUs, TCUs, and MSIs; and news articles.

Broadband Access Overview

OMBI carries forward NTIA's commitment to closing the digital divide and achieving digital equity at HBCUs, TCUs, MSIs, and within anchor communities. HBCU, TCU, and MSI anchor institutions experience a wide range of challenges with access to high-speed internet, and closing the digital divide requires availability, affordability, and adoption to work in concert.⁴² Full and meaningful access to high-speed internet, therefore, means having the physical infrastructure in place to support connectivity, the ability to afford service and devices, and the capabilities and skills necessary to support widespread internet use and adoption, all of which results in full participation in the digital economy.

Broadband availability refers to the existence of the infrastructure needed to have a reliable high-speed connection to the internet.⁴³ Many studies note that changing technologies and demands for telecommunications services may result in evolving needs for and definitions of high-speed internet service.⁴⁴ Institutions of higher education, in particular, require much greater speeds than are required within households, sometimes requiring more than 1GB to enable the adequate bandwidth for students, faculty, and staff.⁴⁵ Therefore, internet affordability refers to whether anchor institutions and their students, faculty, staff, and community residents can afford both the total cost of service and the devices necessary to access the internet.

Broadband affordability refers to the ability to afford the costs associated with accessing the internet, including service, devices, and fees. Beyond simply having available infrastructure, HBCUs, TCUs, MSIs—along with their staff, students, and anchor communities—must be able to afford the costs associated with obtaining and maintaining access to the internet. Whether service is affordable for an individual or household depends on various factors, including household income, household size, location, and rurality; institutions may have similar variations depending on size, location, rurality, and financial circumstances. The total cost of connectivity goes beyond the cost of service itself and includes numerous additional fees, such as equipment rental fees (e.g., routers, modems), installation and activation fees, data overage penalties, and contract termination fees.⁴⁶ Therefore, internet affordability refers to whether anchor institutions and their students, faculty, staff, and community residents can afford both the total cost of service and the devices necessary to access the internet.

⁴² John Cassidy et al., "Closing the Digital Divide: How States Can Expand Broadband Access," Deloitte Insights (Deloitte, December 1, 2021), <https://www2.deloitte.com/us/en/insights/industry/public-sector/state-broadband-access-digital-divide.html>.

⁴³ The Infrastructure Investment and Jobs Act of 2021 defines high-speed broadband connectivity for both unserved and underserved areas. An unserved location lacks access to reliable broadband service with speeds of 25Mbps download and 3Mbps upload (referenced as 25/3Mbps), while an underserved location lacks access to speeds at 100/20Mbps.

Adie Tomer, Elizabeth Kneebone, and Ranjitha Shivaram, "Signs of Digital Distress: Mapping Broadband Availability and Subscription in American Neighborhoods," Brookings (Brookings, March 9, 2022), <https://www.brookings.edu/research/signs-of-digital-distress-mapping-broadband-availability/>; Infrastructure Investment and Jobs Act of 2021

⁴⁴ Brookings notes that broadband is a flexible term and as "telecommunications continue to evolve, so too do the definitions of what qualifies as broadband-level speeds." Tomer, Kneebone, and Shivaram, "Signs of Digital Distress"

⁴⁵ "What Speed Do You Need?," BroadbandUSA (Department of Commerce), accessed May 18, 2022, https://broadbandusa.ntia.doc.gov/sites/default/files/publication-pdfs/bbusa_what_speed_do_you_need.pdf.

⁴⁶ Becky Chao, Claire Park, and Joshua Stager, "The Cost of Connectivity 2020," New America (New America, July 15, 2020), <https://www.newamerica.org/oti/reports/cost-connectivity-2020/>.

Broadband adoption refers to the possession of the necessary digital skills, resources, and support to meaningfully use the internet.⁴⁷ Broadband adoption encompasses the requisite digital skills, access to devices (e.g., smartphones, computers, tablets), the ability to access and use distance learning systems and platforms, and an availability of trained IT support staff to support students, staff, and the surrounding community. At institutions, adoption and meaningful use also includes establishing robust cyberinfrastructure, which will enable the use of advanced computing systems and data resources to enhance research productivity, discovery, and scholarship of faculty and staff.⁴⁸ It also means a commitment to the promotion of science, technology, engineering, and mathematics (STEM) education to prepare and train students for the workforce.

Equitable internet access can be achieved when all three components—availability, affordability, and adoption—come together to enable meaningful connection for institutions and communities.

The Importance of Equitable Internet Access

A connection to high-speed internet can have wide ranging impacts on people’s daily lives. It can empower workers and jumpstart new businesses; it can connect students to quality education; it can increase access to care at anytime from anywhere; and it can strengthen social ties and access to services. Examples of these benefits are ubiquitous across the country.

In education, access to high-speed internet can empower schools to digitize their curriculum. Without the high costs of printed textbooks, schools can save nearly \$600 per student per year while also making educational resources more accessible.⁴⁹ Thus, access allows schools to reallocate funds to more critical resources and activities.

High-speed internet access connects American businesses to the global marketplace and creates well-paid jobs, wherever someone may live. In Colorado, the Logan County Economic Development Corporation (LCEDC) developed high-speed internet infrastructure to open opportunities for workers in rural and disadvantaged areas. LCEDC’s investment directly led to the creation of telework jobs and helped to attract tourists and more than 25 new businesses to the county.⁵⁰

⁴⁷ The Infrastructure Investment and Jobs Act of 2021 defines broadband adoption as “the process by which an individual obtains daily access to the internet at a speed, quality, and capacity that is necessary for the individual to accomplish common tasks; and such that the access qualifies as an advanced telecommunications capability; with the digital skills that are necessary for the individual to participate online; and on a personal device; and secure and convenient network.” Infrastructure Investment and Jobs Act of 2021.

⁴⁸ “National Effort Prioritizes Advancing Cyberinfrastructure and Research Readiness Among Minority-Serving Institutions,” Internet2 (Internet2, December 1, 2020), <https://Internet2.edu/national-effort-prioritizes-advancing-cyberinfrastructure-and-research-readiness-among-minority-serving-institutions/>.

⁴⁹ “Why Does Broadband Matter?” BroadbandUSA (Department of Commerce), accessed April 29, 2022, https://broadbandusa.ntia.doc.gov/sites/default/files/publication-pdfs/bbusa_why_does_broadband_matter.pdf.

⁵⁰ Charles Neal et al., “The Promise of Smart Rural Communities,” Deloitte Insights (Deloitte, September 27, 2019), <https://www2.deloitte.com/us/en/insights/industry/public-sector/the-promise-of-smart-rural-communities.html>.



Access to high-speed internet is also intrinsically linked to social determinants of health.⁵¹ Tens of millions of Americans, particularly those in rural areas lacking internet availability, cannot access telehealth services, unlike their urban peers.⁵² Telehealth extends the reach of healthcare and has shown to reduce hospital admissions by 25% and overall length of stay by 59%.⁵³ This impact is impossible without internet access. The effects of lacking connectivity cannot be understated: new research has found that the lack of broadband access can have devastating health impacts on communities. More specifically, one of the factors most consistently associated with a high risk of death due to COVID-19 in the United States was the lack of internet access, whether broadband, dial-up, or cellular. This finding held true “regardless of other demographic risk factors like socioeconomic status, education, age, disability, rent burden, health insurance coverage, or immigration status.”⁵⁴

Finally, high-speed internet access strengthens ties in communities and provides critical access to services. Research shows that communities without access to real-time data experience 25% higher rates of lost lives, injuries, and crime.⁵⁵ Additionally, without an online presence, governments are slower to distribute information, address critical issues, and receive feedback.⁵⁶ The internet connects communities to the services they need.

Given its wide-ranging applications and cascading impacts on communities, access to the internet is essential for individuals to thrive in today’s digitally dependent world. Yet despite its importance, access to high-speed internet is far from ubiquitous and its benefits are not equitably shared.

While digital inequity is not new, the COVID-19 pandemic prompted an unprecedented reliance on the internet, exacerbating barriers to access and widening the digital divide. Access to reliable high-speed internet became an emergency for many households, particularly as students transitioned to online learning. The pandemic highlighted barriers to access in an extraordinary way for students who were forced to move to online learning without necessarily having adequate internet service, devices, or digital skills to do so. As the country continues to recover from the pandemic, the need for equitable access has never been clearer. HBCUs, TCUs, and MSIs play an important role to provide access to minority communities, but still face many barriers. OMBI explores those barriers to access in the following section.

⁵¹ Adie Tomer et al., “Digital Prosperity: How Broadband Can Deliver Health and Equity to All Communities,” Brookings (Brookings, February 27, 2020), <https://www.brookings.edu/research/digital-prosperity-how-broadband-can-deliver-health-and-equity-to-all-communities/>.

⁵² Dornauer, Mark E., and Robert Bryce. “Too Many Rural Americans Are Living in the Digital Dark. The Problem Demands a New Deal Solution: Health Affairs Forefront.” Health Affairs, October 28, 2020. <https://www.healthaffairs.org/doi/10.1377/forefront.20201026.515764/full/>.

⁵³ “Why Does Broadband Matter?”

⁵⁴ Keren Landman, “The Surprising Link between Covid-19 Deaths and ... Internet Access,” Vox (Vox, March 16, 2022), <https://www.vox.com/22979086/covid-pandemic-deaths-mortality-broadband-internet-access>.

⁵⁵ “Why Does Broadband Matter?”

⁵⁶ “Why Does Broadband Matter?”

Barriers to Broadband Access

In its first year, the OMBI Report seeks to identify barriers to providing internet access at HBCU, TCU, and MSI anchor institutions, and within their anchor communities. The report provides a baseline understanding of the existing research into barriers to access, synthesizing insights from the NTIA 2021 Internet Use Survey; observed barriers cited by HBCUs, TCUs, and MSIs in anonymized responses from CMC applications; and secondary research. The following sections detail OMBI's findings.

New NTIA Data Highlights Persistent Barriers to Closing the Digital Divide

NTIA has tracked disparities in internet access and device usage for decades with the NTIA Internet Use Survey. Data from the 2021 NTIA Internet Use Survey show promising improvements in internet access and device usage among historically less-connected groups such as minority communities and low-income households.⁵⁷ However, access to broadband is still far from ubiquitous. According to the latest data from the 2021 Survey, only 50% of people making below \$25,000 annually subscribe both to broadband and mobile data plans compared to 80% for those making more than \$100,000 annually.⁵⁸ At the same time, low-income households are more likely to rely exclusively on mobile data plans. While mobile plans offer valuable access to the internet, they may present challenges for those looking to participate in remote education or employment opportunities, as “a computer with a relatively large screen and appropriate input methods, such as a desktop, laptop, or tablet computer, is typically considered the superior tool for important tasks like doing homework and working remotely.”⁵⁹

These disparities in access also fall along racial and ethnic lines. The survey found that Black and Hispanic adults were less likely than their White counterparts to say they have internet at home: 77% of Black and Hispanic adults report having broadband internet at home, compared to 82% of White adults.⁶⁰ NTIA's 2021 data also found continuing disparities in device use: while 71% of White non-Hispanics used a PC or tablet, only 57% of Black Americans and 54% of Hispanics did so.⁶¹ Similarly, other sources show a lack of access is especially problematic on tribal lands, where “only 49% of residents have fixed home internet service.”⁶² Lack of access to high-speed internet prevents minority communities from fully participating in the digital economy, and may further exacerbate other inequities that they already face.

⁵⁷ Goldberg, Rafi. “New NTIA Data Show Enduring Barriers to Closing the Digital Divide, Achieving Digital Equity.” New NTIA Data Show Enduring Barriers to Closing the Digital Divide, Achieving Digital Equity | National Telecommunications and Information Administration, May 11, 2022. <https://www.ntia.doc.gov/blog/2022/new-ntia-data-show-enduring-barriers-closing-digital-divide-achieving-digital-equity>.

⁵⁸ Goldberg, “New NTIA Data Show Enduring Barriers to Closing the Digital Divide, Achieving Digital Equity.”

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Claire Park, “The Cost of Connectivity in the Navajo Nation,” New America (New America, October 12, 2020), <https://www.newamerica.org/oti/reports/cost-connectivity-navajo-nation/>.

2022 OMBI & CMC Insights at HBCUs, TCUs, MSIs, and Anchor Communities

To better understand the barriers to broadband access at HBCUs, TCUs, and MSIs, as well as within anchor communities, OMBI analyzed responses from 200+ CMC applications across the country and supplemented findings with secondary research.

Barriers to Access: Availability

Availability refers to the existence of the infrastructure needed to have a reliable, high-speed connection to the internet.

CMC applicants reported the availability of reliable, high-speed internet as a barrier to access for their students, faculty, and staff, and within their communities. While unique to each institution and community, barriers to broadband availability reported by CMC applicants can be broadly grouped into the following categories:

- Inadequate infrastructure, including outdated or overloaded networks
- Nonexistent infrastructure

Availability Barrier 1

Applicants frequently noted inadequate infrastructure on campus and within the anchor communities, indicating a substantial need for infrastructure upgrades to improve outdated or overloaded networks.

Applicants with outdated infrastructure often noted their networks are unable to keep up with increasing demand, impacting service speeds and reliability on campus. For example, one HBCU applicant highlighted that their institution's "network infrastructure has not been updated since 2011, resulting in most network devices being end-of-life or outdated." Another HBCU cited that the "current aged and outdated broadband network is limiting student and faculty access to academic content, services, communication, and collaboration opportunities." An AANAPISI noted that "students, faculty, and administrators routinely rank lack of campus-wide Wi-Fi as one of their top complaints [about campus]," citing that current Wi-Fi "is only able to cover 35 percent of campus." The applicant further noted that the lack of broadband infrastructure "limits [their] faculty's ability to incorporate basic digital tools in their teaching and to develop innovate [sic] digital pedagogies."

Infrastructure challenges extend to anchor communities, too. CMC applicants noted that the communities their institutions serve may not have access to reliable internet service, which can impact students' academic performance when not on campus and exacerbate socioeconomic challenges for community members. For instance, one HBCU conducted a survey and found that almost half of the residents in the anchor community "who reported having broadband at home complained of slow speeds and unreliable service." Similarly, a PBI applicant noted that a lack of high-speed internet access in their anchor community "leaves many without the ability to access education and other critical services."

Surveys conducted by national advocacy organizations support these findings. A cyberinfrastructure study conducted by AIHEC and funded by the National Science Foundation identified inadequate availability as the primary barrier to broadband internet at TCUs. While all TCUs that participated in the study had Wi-Fi networks on their campuses, most were using outdated technology and only 15% were using new Wi-Fi systems. The study also revealed that, on average, internet speed at tribal colleges is more expensive but ten times slower when compared to other institutions of higher education.⁶³ Similarly, 74% of respondents to a survey administered by the HACU on infrastructure needs at HSIs cited IT infrastructure as an area in need of capital financing. An additional 43% of respondents cited broadband as a capital financing project in need of “immediate attention.”⁶⁴

Availability Barrier 2

Applicants also noted that infrastructure sometimes did not exist at all at institutions and in anchor communities, referencing a variety of factors, including rurality and challenging topography.

For example, a TCU highlighted that “mountainous topography and the extent of ‘checkerboard’ tribal land restricts long-haul fiber development.” An HSI noted that the appropriate infrastructure for high-speed internet does not exist in its rural, underserved anchor community. Instead, access “may only be available through satellite connectivity.” An HBCU highlighted that the “economics of rural broadband limit internet service provider’s [*sic*] interest in deploying broadband” in its rural anchor communities.

Secondary research points to rurality as a particularly acute barrier for TCUs, as most tribal colleges are located in isolated rural regions where students lack access to internet service in their homes or receive minimal bandwidth from local community carriers that charge a high rate.⁶⁵ Roughly half of the population living on tribal lands has a subscription to high-speed internet service, compared to more than 80% of households nationwide.⁶⁶

While broadband infrastructure is a necessary precursor to broadband access, it does not necessarily translate to equitable access to the internet. For that, it is important to also consider challenges related to affordability and adoption.

⁶³“Tribal Colleges and Universities: Information Technology & Cyberinfrastructure Needs,” American Indian Higher Education Consortium (American Indian Higher Education Consortium, February 2021), [http://www.aihec.org/what-we-do/docs/fy22/tcu%20it%20fund%20\\$24m.pdf](http://www.aihec.org/what-we-do/docs/fy22/tcu%20it%20fund%20$24m.pdf). The study focused on information technology and cyberinfrastructure systems at 32 TCUs.

⁶⁴“Federal Underfunding and Infrastructure Needs of HSIs in the Age of COVID-19,” HACU (Hispanic Association of Colleges and Universities, September 22, 2021), https://www.hacu.net/images/hacu/Newsrel/2021/2021_HSIsReport.pdf. The survey was administered to 111 individuals across 569 HSIs.

⁶⁵“Tribal Colleges and Universities: Information Technology & Cyberinfrastructure Needs”

⁶⁶ Hansi Lo Wang, “Native Americans on Tribal Land Are ‘the Least Connected’ to High-Speed Internet,” NPR (NPR, December 6, 2018), <https://www.npr.org/2018/12/06/673364305/native-americans-on-tribal-land-are-the-least-connected-to-high-speed-internet>.



Barriers to Access: Affordability

Affordability refers to the ability to afford the costs associated with accessing high-speed internet, including for service, devices, and fees.

CMC applicants referenced affordability barriers to access for both anchor communities and for the students, faculty, and staff at the institutions.

Affordability Barrier 1

CMC applicants frequently cited affordability as a barrier to access, referencing the high cost of broadband service for anchor communities.

For example, an HBCU applicant cited an “affordability gap” for broadband among the residents in the nearby community. One HSI applicant cited a “lack of reliable broadband access” as one of the “most significant needs facing [its] service area [...] The main reason these families do not have home computers or internet access is that they cannot afford it. While discounted internet programs exist, they reach very few rural/frontier communities like those in [their] service area and are therefore not a viable option.”

Affordability Barrier 2

Applicants also cited other affordability challenges, particularly around the affordability of the necessary devices, facing their students.

Many applicants noted that affording devices posed a challenge to many students. One HSI applicant made the affordability challenge particularly clear, noting that low-income students at their institution already “struggle to meet their basic needs, including food, housing, and technology.” Because of this, the applicant continued, “many of our students needed to share their technology with other members of their household” and over 25% of students “accessed the internet through their cell phones or tablets, because they did not have internet access through their computers.”

Secondary research findings regarding affordability reveal that measuring affordability is a complex undertaking as it varies between institutions and communities based on numerous factors. The question of whether or not access to the internet is “affordable” for someone rests on a host of individual and local factors, such as income levels, poverty rates, age, and educational attainment in the area.⁶⁷ Based on reported barriers from institutions, affordability may be difficult to define through a common, universal standard, but, rather, is relative based on circumstances. This complexity points to the need to explore adoption, as affordability is only one of many reasons why an individual may not be able to adopt and meaningfully use the internet.

⁶⁷ Reddick et al., “Determinants of Broadband Access and Affordability: An Analysis of a Community Survey on the Digital Divide,” National Center for Biotechnology Information (National Library of Medicine), National Institute of Health, September 9, 2020, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7480260/>.

Barriers to Access: Adoption

In addition to availability and affordability barriers, CMC applicants reported a range of adoption barriers, including the lack of necessary technology, digital literacy, and support staff. Adoption refers to the possession of the necessary digital skills, resources, and support to meaningfully use the internet.

Adoption Barrier 1

Applicants noted that a lack of necessary devices, particularly among low-income and minority students, prevents many from obtaining full access to the internet.

While some applicants specifically noted affordability as the main cause for students lacking devices, many others did not specify the root cause. Instead, the applicants noted the impact that the lack of a device has on a student. One HBCU applicant highlighted survey results on the technology needs of students at their institution and found that “at least 10% of students lacked internet access or devices to participate in remote learning and 62% of the students requesting devices were low-income and 49% were from underrepresented groups.” A PBI applicant explained that “approximately half [of students] do not own a working computer on which to complete their coursework, but rather plan to rely on a combination of borrowed devices, public computers, and/or devices that are not fully operational or otherwise do not meet the technical specifications for online or blended coursework.”

Secondary research also highlighted challenges associated with device access at HBCUs, TCUs, and MSIs. A study conducted at an HSI found that only 79% of students had the “optimal combination” of smartphone or desktop, with “first-generation, low-income, Black, and older students significantly less likely to have this combination and often having to share devices within their households.” Even among students who did have access to internet-enabled devices, the study noted that devices lacked the proper hardware or software that students required to be successful in their courses.⁶⁸

Adoption Barrier 2

Applicants noted that knowledge and language barriers faced by students and community members may impact their digital literacy, including their ability to effectively navigate the internet or use connected devices.

In one example, an HSI applicant noted that anchor communities “suffer from low educational attainment rates, low high school graduation rates, limited English skills, high poverty rates, high unemployment rates, and limited access to broadband.” The applicant further mentioned that “without intentional efforts to increase broadband access and expand remote learning opportunities through efforts such as computer literacy courses, these areas will continue to fall behind [...]” An AANAPISI also highlighted these challenges, noting that, in addition to severely inadequate connectivity, “limited digital skills coupled with lack of English language skills create major barriers to student use of technology.”

⁶⁸ Trevor Bell, Joseph W. Aubele, and Carol Perruso, “Digital Divide Issues Affecting Undergraduates at a Hispanic-Serving Institution during the Pandemic: A Mixed-Methods Approach,” MDPI (Multidisciplinary Digital Publishing Institute, February 8, 2022), <https://doi.org/10.3390/educsci12020115>.



Adoption Barrier 3

Applicants reported that students and staff were sometimes unable to effectively utilize available broadband resources due to a lack of support from overburdened or unavailable IT support staff.

For example, an HBCU noted that the IT Department at their institution is understaffed and “overwhelmed with service complaints of inability to access and/or connect to internet.” In another case, a TCU pointed to staffing challenges, noting that “brain drain” makes it difficult for TCUs to retain skilled IT talent to provide digital services. This outcome is corroborated by secondary research which highlighted the lack of trained support staff many of these institutions experience.⁶⁹

CMC application data suggests a more complex adoption barrier landscape in and around HBCUs, TCUs, and MSIs than what current county-level data sources on device ownership or access to the internet can provide. Even if analyzed at a more granular level, data gathered through the American Community Survey—namely households with internet devices and households with internet access—capture only two of many factors that can indicate adoption and access. Other factors, such as digital literacy, language fluency, and access to IT staff may be important factors to understanding and achieving full adoption. OMBI’s support of additional data gathering, through the administration of the CMC program, can provide a more nuanced understanding of the complex access environment of these institutions and their anchor communities.

Across availability, affordability, and adoption, OMBI’s insights point to the many barriers to access facing HBCUs, TCUs, and MSIs, underscoring the importance of OMBI’s efforts to connect minority communities and close the digital divide.

⁶⁹“Survey Results: Broadband Infrastructure Support, Workforce Development Are Key Issues Facing Minority-Serving Institutions,” Internet2 (Internet2, February 17, 2021), <https://internet2.edu/survey-results-broadband-infrastructure-support-workforce-development-are-key-issues-facing-minority-serving-institutions/>.



PART 3:

Looking Ahead

Recommendations and Next Steps

As part of its inaugural report, OMBI proposes a series of recommendations and next steps that will enhance OMBI's insights into the high-speed internet landscape at HBCUs, TCUs, and MSIs, and within their anchor communities, and further the mission of closing the digital divide.

1 | Continue to build capacity of anchor institutions and their communities.

OMBI will continue to engage with HBCUs, TCUs, and MSIs, as well as their anchor communities. In addition, the Office will empower CMC grantees and collaborating entities with the tools, resources, and technical assistance necessary to close the digital divide at HBCU, TCU, and MSI anchor institutions and within their communities.

2 | Explore lessons learned from the Connecting Minority Communities Pilot Program to develop best practices for expanding digital access and adoption.

The lessons learned from the CMC Pilot Program can inform strategies that OMBI brings to scale to support additional communities and can be leveraged by OMBI's partners. Additionally, in future years as CMC funded projects are awarded and implemented, the program can provide insight into challenges encountered by grantees in working towards their target outcomes and will allow OMBI to develop a roadmap to address these challenges in the future. Lessons learned and other findings from the CMC program will be detailed in the CMC Report mandated by the Consolidated Appropriations Act of 2021.

3 | Coordinate resources and efforts to support the Administration's Internet for All grant programs.

As NTIA's new grant programs are rolled out—including the BEAD Program and the Digital Equity Act Programs—OMBI will work across the Office to identify opportunities for integration with the programs, which place a significant emphasis on digital equity. OMBI may provide insight into lessons learned from the CMC Pilot Program to support the success of NTIA grant programs. OMBI's longstanding relationships with and knowledge of minority communities can support effective outreach and technical assistance to those communities that still lack the necessary access, affordability, and adoption.

4 | Explore partnerships with relevant digital equity stakeholders in support of anchor institutions and their communities.

OMBI will promote collaboration, knowledge sharing, and thought leadership amongst a variety of stakeholders to address the unique needs of minority communities and improve internet access and adoption. These stakeholders can provide valuable insights into challenges encountered by applicants, grantees, and collaborating entities, which can help inform OMBI's strategic and tactical approach to closing the digital divide. These coordination efforts across the federal government, with external organizations, and with the institutions themselves are integral to OMBI's vision.

Conclusion

In its first year, OMBI worked to close the digital divide and promote internet access at HBCUs, TCUs, MSIs, and in anchor communities. The Office built on the work of BroadbandUSA and the Minority Broadband Initiative while cultivating new relationships and partnerships to expand broadband access across its target institutions and anchor communities. The Office's three pillars—Administer the CMC Pilot Program; Collaborate with Federal, State, Tribal, and Anchor Institution Stakeholders; and Build Capacity of Anchor Institutions and their Communities—represent the core of its work and will help align Office efforts and initiatives moving forward.

This inaugural report represents the Office's initial insights into the barriers to broadband access faced by HBCUs, TCUs, and MSIs, and within their anchor communities. In future years, the Office will build on this baseline understanding and dig deeper into these barriers. A data-driven, research-based assessment of the impact and extent of barriers to access at HBCUs, TCUs, MSIs, and in their anchor communities is a crucial step to finally close the digital divide.

OMBI looks forward to working with relevant stakeholders across the digital equity landscape in the future to build on this year's successes in pursuit of expanded high-speed internet access and digital equity across the country.



APPENDIX:

CMC Pilot Program Awards

Appendix

CMC Pilot Program Awards as of Report Publication

Applicant	Project Description
<p>Dine College</p> <p>Funding Amount: \$2,925,627.00</p>	<p>Dine College's CONNECT NAVAJO project aims to improve educational and economic opportunity on the Navajo Nation by improving internet access, providing more hardware, and investing in IT staff. This project will ensure that the Diné people can continue to reside in their homes on Navajo Nation and benefit from access to technology that helps them earn academic credentials and enter economically rewarding and personally fulfilling careers.</p>
<p>Drake State Community and Technical College</p> <p>Funding Amount: \$2,413,182.20</p>	<p>The Drake State Community and Technical College's Connecting Minority Communities project aims to eliminate historical inequities related to broadband and computer access within the anchor communities in and around Madison County, Alabama. The proposed program will provide access to laptops with broadband access, home broadband access for anchor community members, streamline access to Drake State's student support resources and online courses, and democratize access to postsecondary education and careers in computer science information systems, cyber security, and cyber defense. With this grant funding, Drake will have the necessary resources to support students' potential and ambition to earn an Associate's degree, and for those who desire it, the opportunity to earn an online bachelor's degree in information technology management or micro-credentials in industry-recognized computer science information certificates.</p>
<p>Mercy College</p> <p>Funding Amount: \$2,620,940.00</p>	<p>Mercy College's Connected, Credentialed and Ready (CCAR) project aims to improve student outcomes by expanding broadband internet access, connectivity, and digital inclusion that will facilitate educational instruction and learning, including through remote instruction. CCAR aims to expand student access to technology and build digital skills and IT workforce capacity that will provide ongoing and sustainable benefits to our students and the surrounding anchor communities.</p>
<p>Oklahoma State University Institute of Technology</p> <p>Funding Amount: \$754,970.22</p>	<p>Through the Student Success and Increasing Minority Workforce Participation Program, Oklahoma State University Institute of Technology (OSUIT) aims to be a proactive participant within its community to decrease the digital divide and enhance access to broadband services as well as increase the talent pipeline for Oklahoma's telecommunications industry. It will address two critical issues being faced by Oklahoma's rural communities: 1) The availability of broadband services in Oklahoma's low-income communities, and 2) A lack of skilled workers and high-quality training programs available for Fiber Technicians in Oklahoma's low-income, rural communities.</p>

Appendix

CMC Pilot Program Awards as of Report Publication

Applicant	Project Description
<p>Tohono O'odham Community College</p> <p>Funding Amount: \$1,927,857.61</p>	<p>The Tohono O'odham Community College (TOCC) Hewel Wepegi Macidag kc, wog - 'Learning the Internet Road' is designed to directly address the lack of broadband access, connectivity, adoption and equity at the college and in the surrounding anchor communities on Tohono O'odham Nation (TON). The overarching goal of the program is to support economic development on the Tohono O'odham Nation through digital workforce development, community connectivity improvement, and computer literacy enhancement.</p>
<p>College of the Marshall Islands</p> <p>Funding Amount: \$1,794,628</p>	<p>The College of the Marshall Islands (CMI) Broadband Access for Remote Learning Opportunities and Training Program (BARLO) aims to ensure all eligible students and learning centers have access to broadband internet access to contribute to the improvement of standard of living by providing higher education to remote communities. Its purpose is to strengthen the College's IT technical and human capacity to help provide better broadband education and training, access, and technical support services. Further, it intends to provide subsidized broadband access to low-income and in-need students. The project will contribute to the stimulation and adoption of the use of broadband services for remote learning, telework and entrepreneurship to help stimulate employment opportunities, and sustainable economic development.</p>
<p>Eastern University</p> <p>Funding Amount: \$2,011,405.13</p>	<p>Eastern University's Hope Digital Literacy project will leverage educational, institutional, and relational assets in the area and deepen neighborhood level trust to forge a digital opportunity community in the heart of North Philadelphia by resourcing, educating, equipping, and empowering Latinos and other low-income individuals to utilize digital tools to accomplish practical workforce, education, and health-related goals.</p>
<p>Mount Saint Mary's University</p> <p>Funding Amount: \$747,019.00</p>	<p>Mount Saint Mary's University (MSMU)'s "Improving Access and Connection for Next Generation Women Leaders: MSMU's Technology Lending and Development Program" aims to provide more students with access to digital devices and increase their confidence with digital literacy, which has been a major challenge for many students due to the pandemic.</p>
<p>New Mexico Highlands University</p> <p>Funding Amount: \$2,901,403.08</p>	<p>New Mexico Highlands University (NMHU)'s "Building Sustainable Technology and Equity Connected Communities through Youth and Adult Workforce Development: the Acequia and Land Grant Education" (ALGE) Project will use digital technology to deliver a culturally responsive curriculum to underserved populations in Northern New Mexico (NMM), and culturally sustaining pedagogy to teachers of students in underserved populations.</p>

