USDA Programs to Expand Broadband Access in Rural Areas

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Introduction

- Broadband access is increasingly recognized as a "super determinant" of health (Turcios, 2023)

- Increasing the proportion of adults with broadband internet is one objective of Healthy People 2030 (U.S. Department of Health and Human Services, 2024)

- A "digital divide" still exists between many rural or tribal areas and most urban areas, and between demographic groups in all areas

- The Federal Government is investing large amounts of funds to reduce the digital divide – more than $75 billion in new programs since 2020 (U.S. Government Accountability Office, 2022)

- In this presentation I will discuss some USDA programs to increase broadband access in rural areas, and the areas and populations served

Digital Divide in Broadband Availability

- Large parts of the United States still lack available broadband service, especially rural and tribal areas

- In December 2023:
  - 19% of households in nonmetro areas and 17% of households in tribal areas (metro or nonmetro) lacked fixed terrestrial broadband (at 100/20 Mbps), compared to
  - 4% of households in metro areas

Percent of residences with fixed terrestrial broadband service (100/20 Mbps) available, Dec. 2023

Map Legend
Served Units Percentage
- 0%
- 0 - 20%
- 20 - 40%
- 40 - 60%
- 60 - 80%
- 80 - 100%

Hex Level: 5
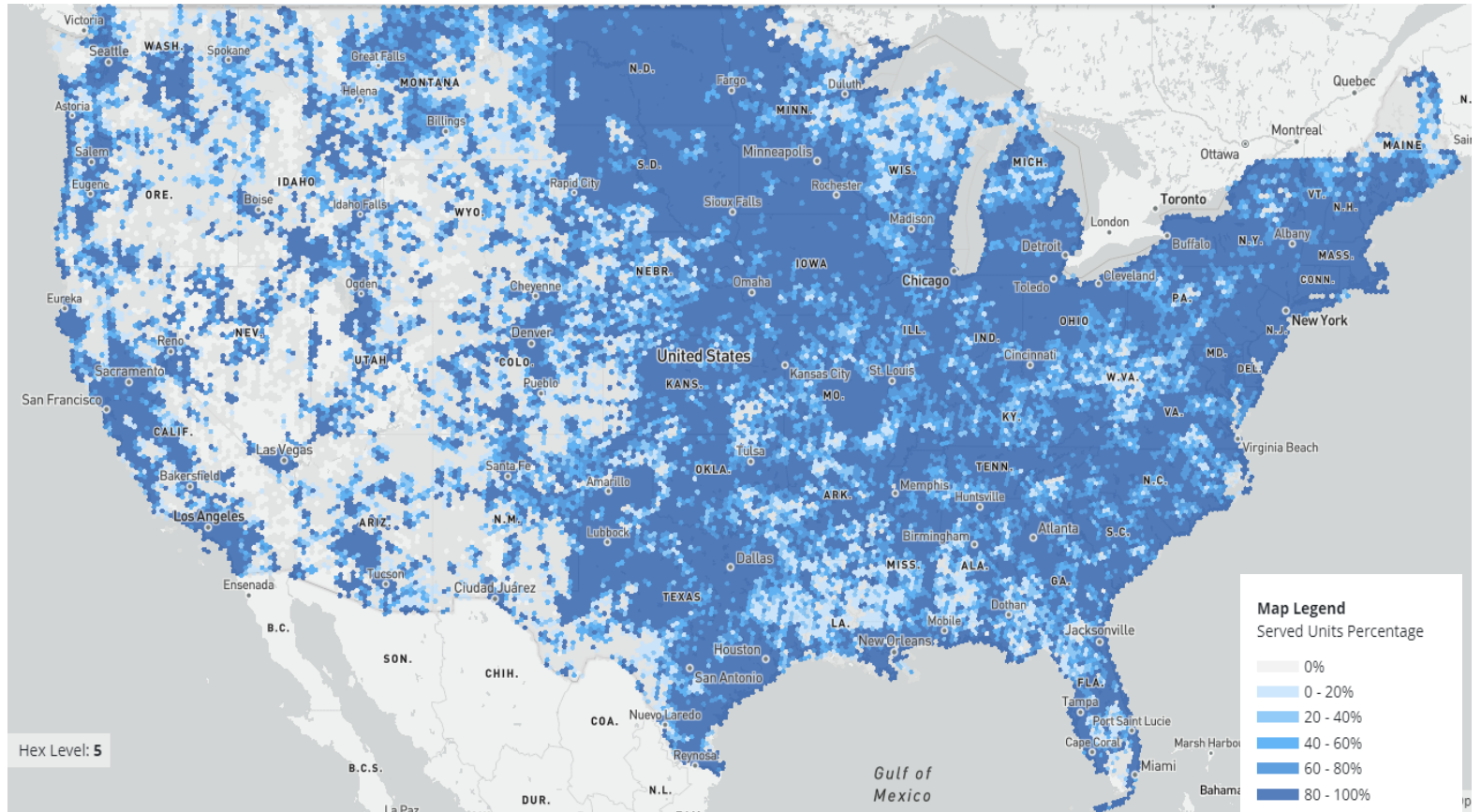
Source: Federal Communications Commission National Broadband Map, Dec. 31, 2023

Digital Divide in Broadband Subscriptions

- Subscription rates to broadband service also lower in nonmetro areas

- Lower broadband subscriptions in rural areas also likely due to
  - Less education
 - Lower incomes
  - Older population

Percentage of households with wired highspeed Internet subscription, nonmetro vs. metro areas
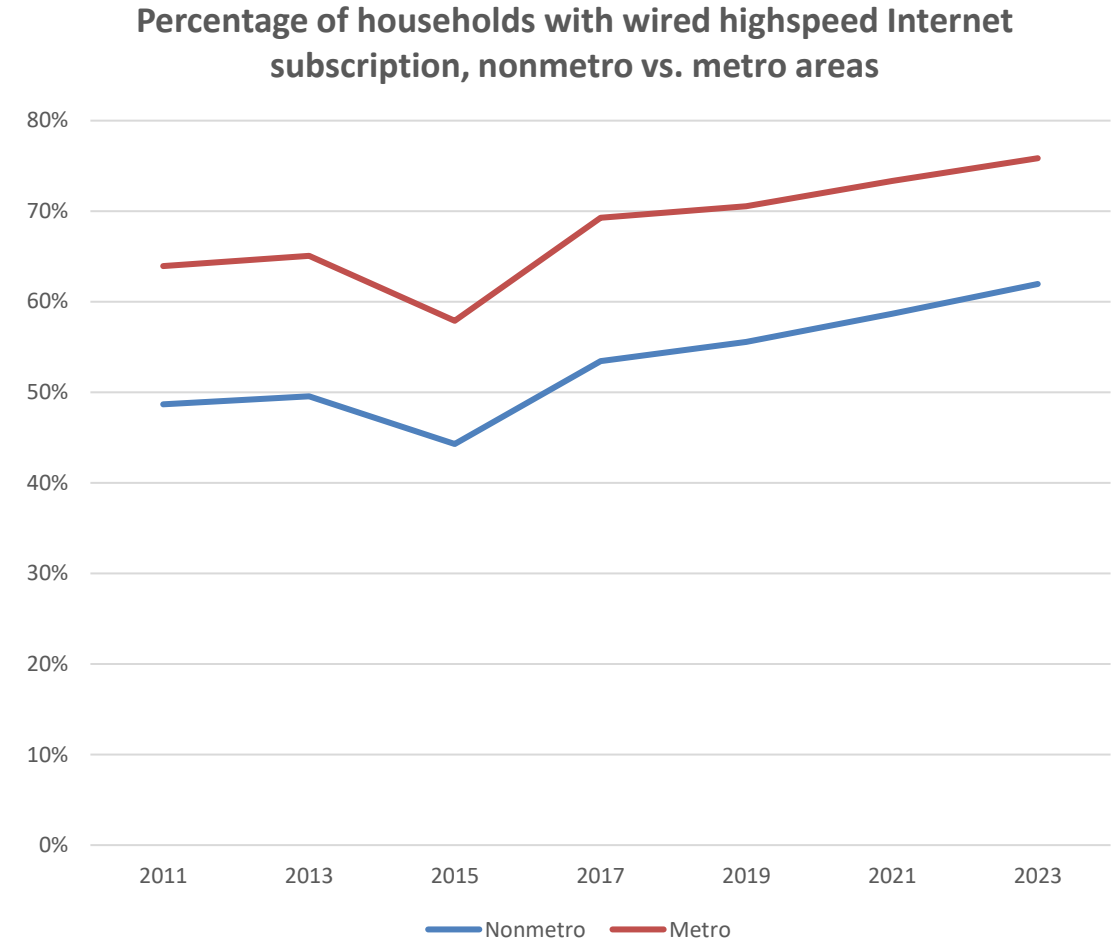
Source: USDA Economic Research Service, using data from the National Telecommunications and Information Administration, Data Explorer

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Digital Divide in Use of Telehealth Services

- One way the digital divide may affect health is in use of telehealth services – which is lower in rural areas

Percentage of Medicare users with telehealth service, rural/urban
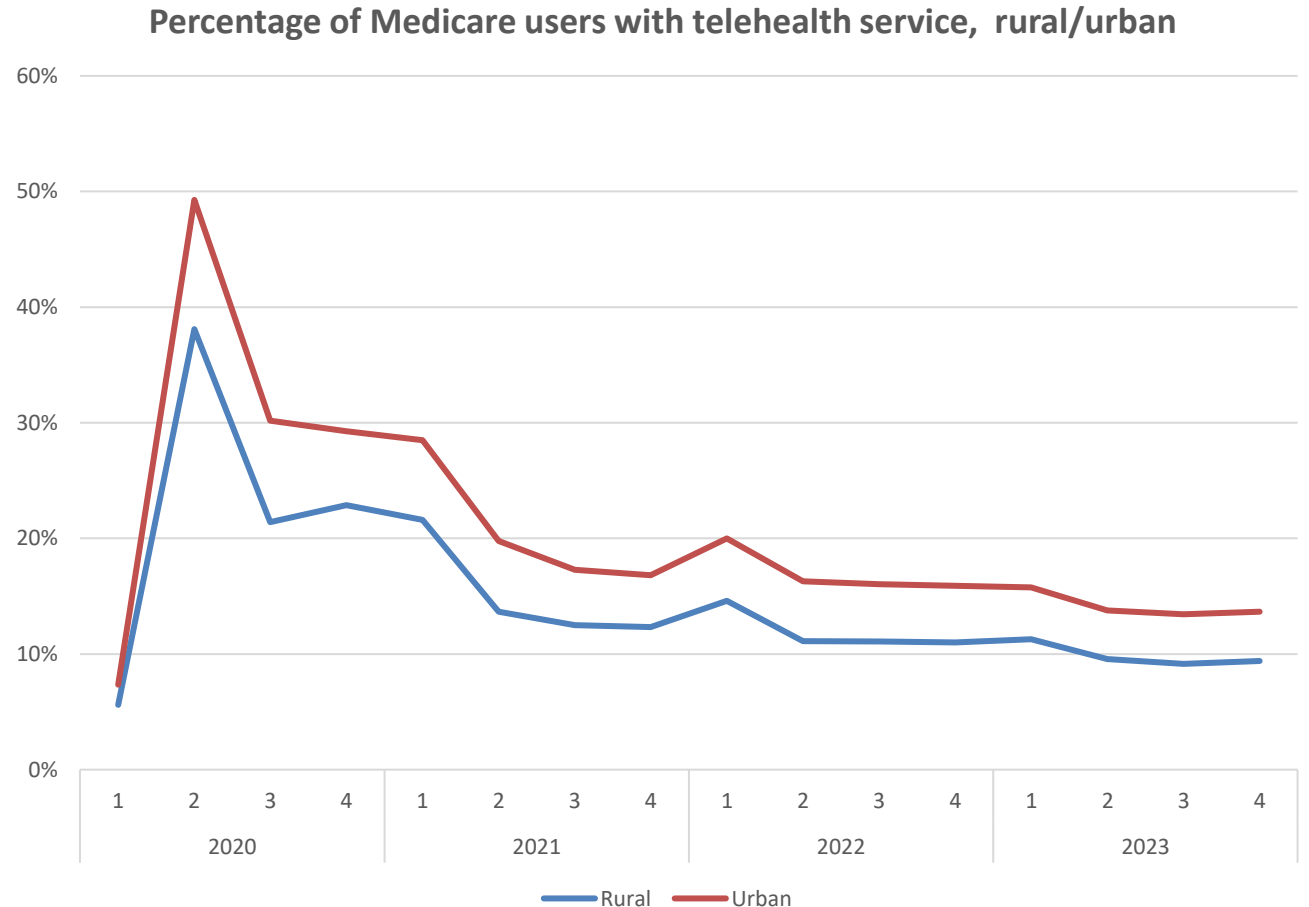
Source: USDA Economic Research Service using data from the U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services (Data.CMS.gov)

USDA Rural Broadband Programs (1)

- Since the early 2000s, USDA has operated five programs to expand broadband infrastructure availability in rural areas
  - Telecommunications Infrastructure Loans (TIL) – continuation of rural telephone loan program established in 1949, has included support of broadband since 1995
  - Rural Broadband Access Loans (RBL) – established as a pilot in 2001 and became a regular program in 2003
  - Community Connect grant (CCG) program – established as a pilot in 2002 and became a regular program in 2004
  - Broadband Initiatives Program (BIP) grants and loans – a large ($2.5 billion appropriation) one-time program established by the American Recovery & Reinvestment Act of 2009
  - ReConnect program (RCP) – established as a pilot grant and loan program in 2018, now the largest USDA broadband program
- USDA also operates the Distance Learning and Telemedicine grant program to finance equipment, facilities, and software

USDA Rural Broadband Programs (2)

- Between fiscal years (FY) 2009 and 2021
  - BIP obligated $2.0 billion in grants and $1.0 billion in loans in FY 2010
  - TIL obligated over $3 billion in loans
  - ReConnect obligated $1.1 billion in grants and nearly $400 million in loans
  - RBL obligated about $200 million in loans
  - CCG obligated about $200 million in grants

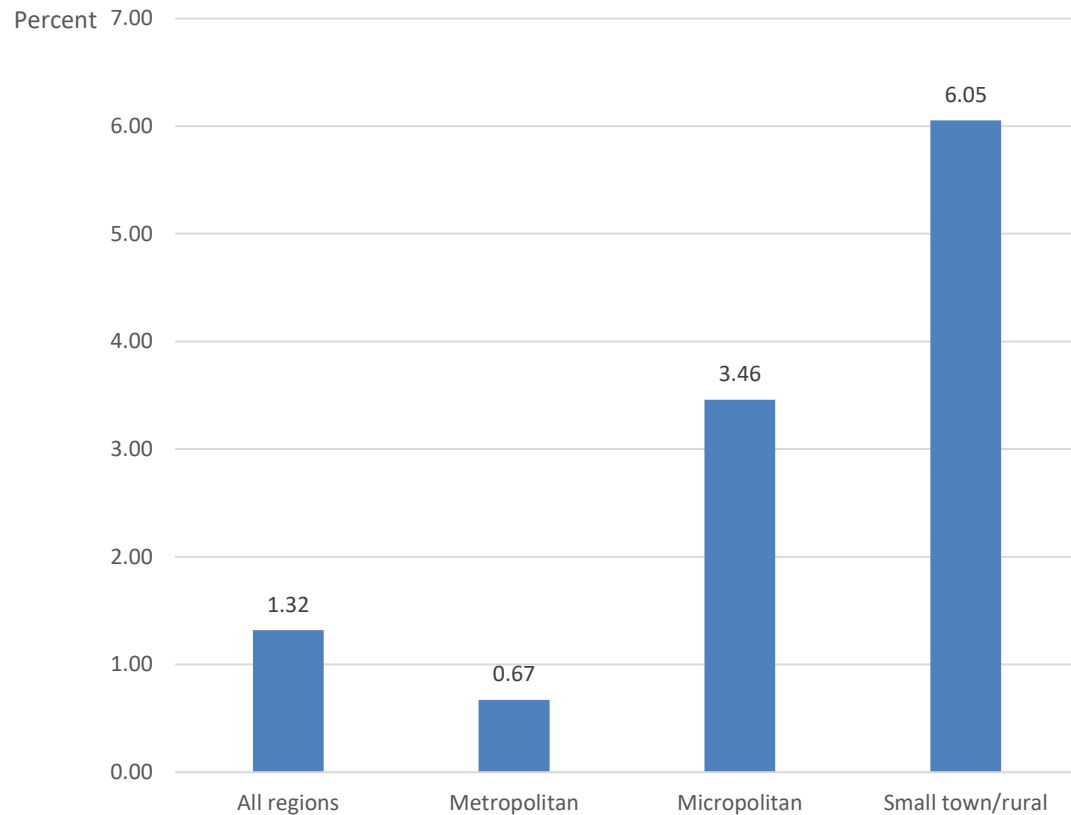Net Obligations of USDA Broadband Grant and Loan Programs, FY 2009-2021, $ million (nominal $)
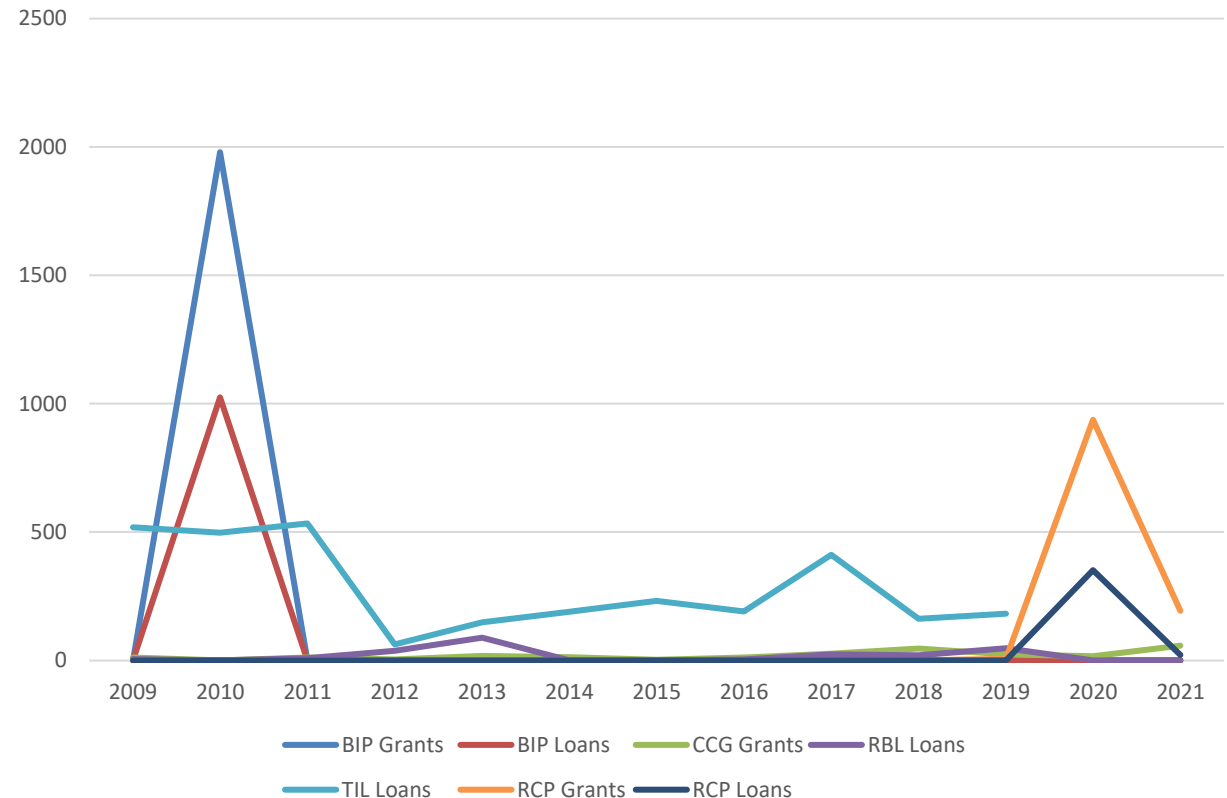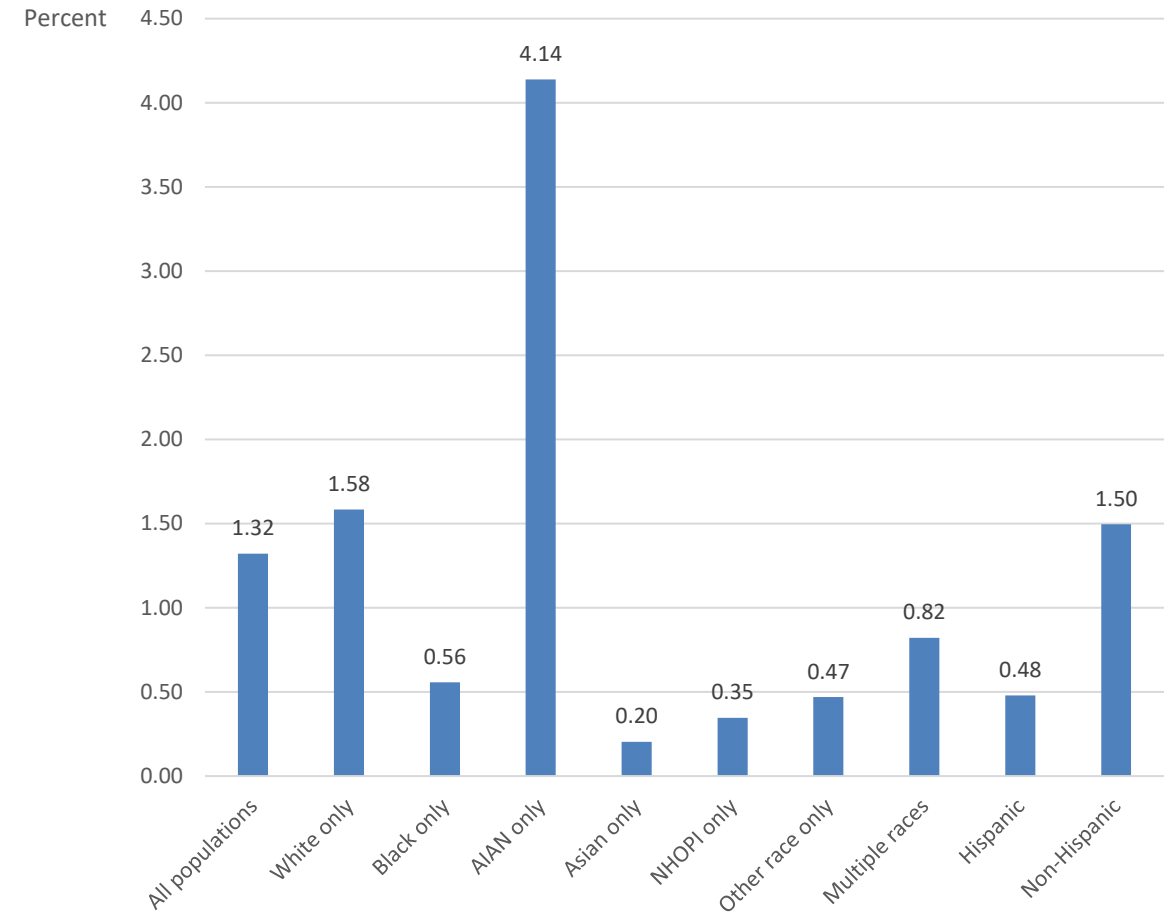
Source: Pender et al. (2023)

Areas and Populations Served by BIP

Percent of 2010 population in BIP project service areas by type of census tract

Percent

All regions	1.32
Metropolitan	0.67
Micropolitan	3.46
Small town/rural	6.05

Source: Pender et al. (2023)

Percent of 2010 population in BIP project service areas by race and ethnicity

Percent

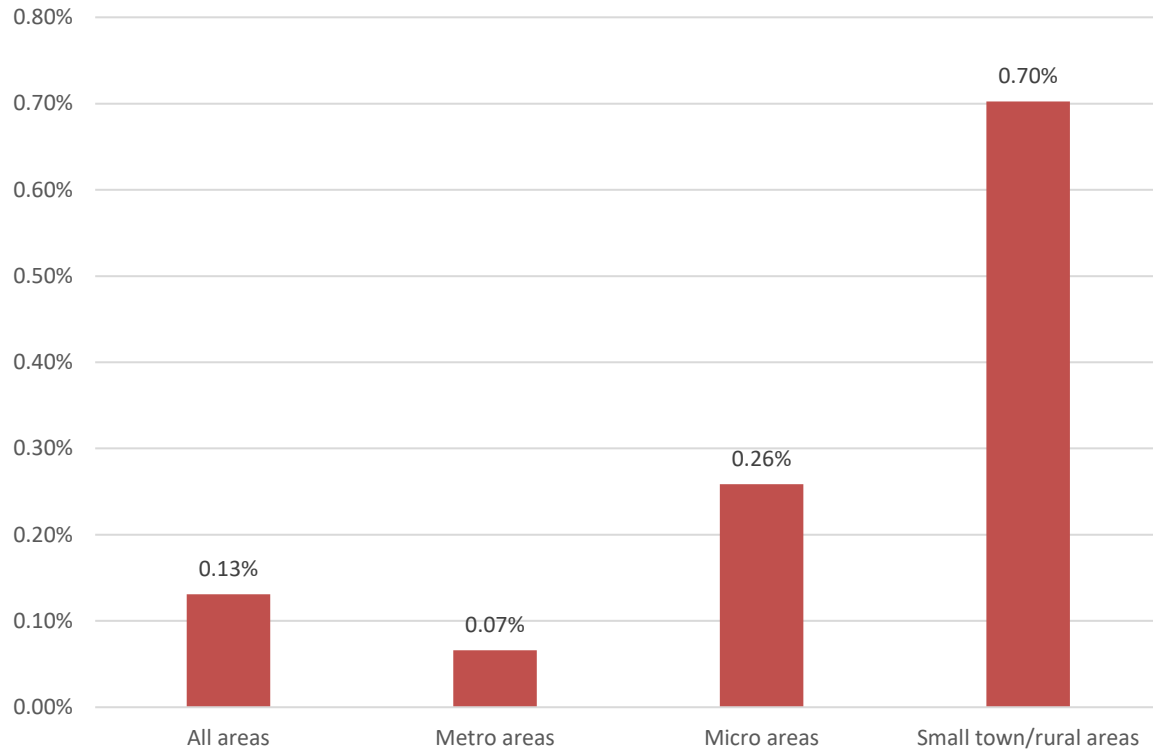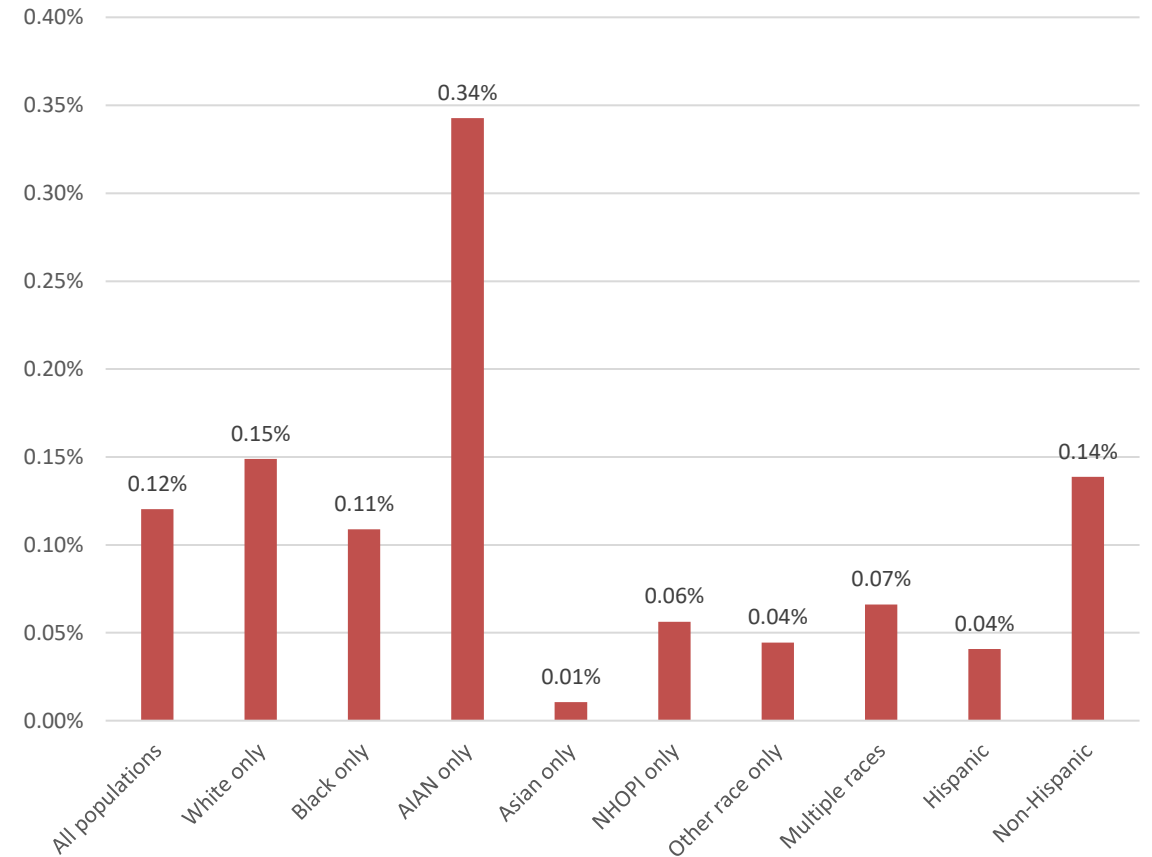|	
All populations	1.32
White only	1.58
Black only	0.56
AIAN only	4.14
Asian only	0.20
NHOPI only	0.35
Other race only	0.47
Multiple races	0.82
Hispanic	0.48
Non-Hispanic	1.50

Areas and Populations Served by ReConnect Projects Approved in FY 2019-2021

Percent of 2010 population in areas with approved ReConnect projects in FY 2019-2021, by type of census tract

Category	Percent
All areas	0.13%
Metro areas	0.07%
Micro areas	0.26%
Small town/rural areas	0.70%

Percent of 2020 population in areas with approved ReConnect projects in FY 2019-2021, by race and ethnicity

| Category	Percent
All populations	0.12%
White only	0.15%
Black only	0.11%
AIAN only	0.34%
Asian only	0.01%
NHOPI only	0.06%
Other race only	0.04%
Multiple races	0.07%
Hispanic	0.04%
Non-Hispanic	0.14%

Source: Pender et al. (2023)

Characteristics of Populations Served/Not Served by BIP and ReConnect Projects

Characteristics in 2006-10 of populations served/not served by BIP projects approved in FY 2010
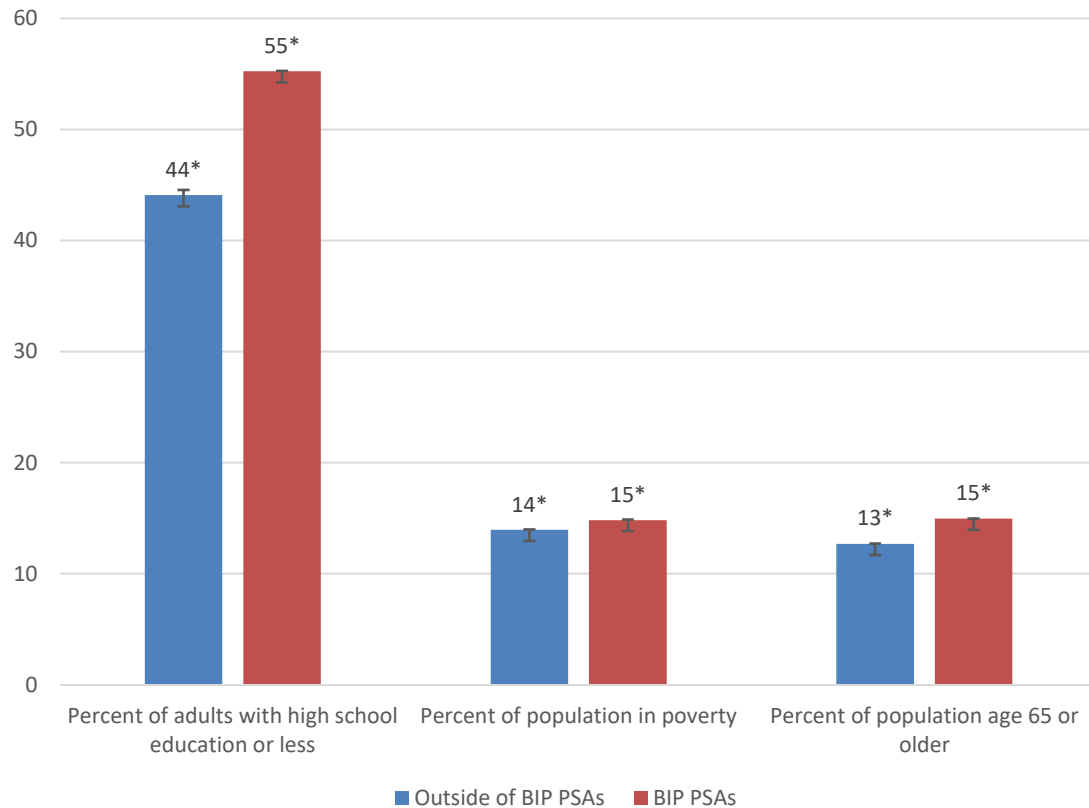
Characteristics in 2015-19 of populations served/not served by ReConnect projects approved in FY 2019-2021
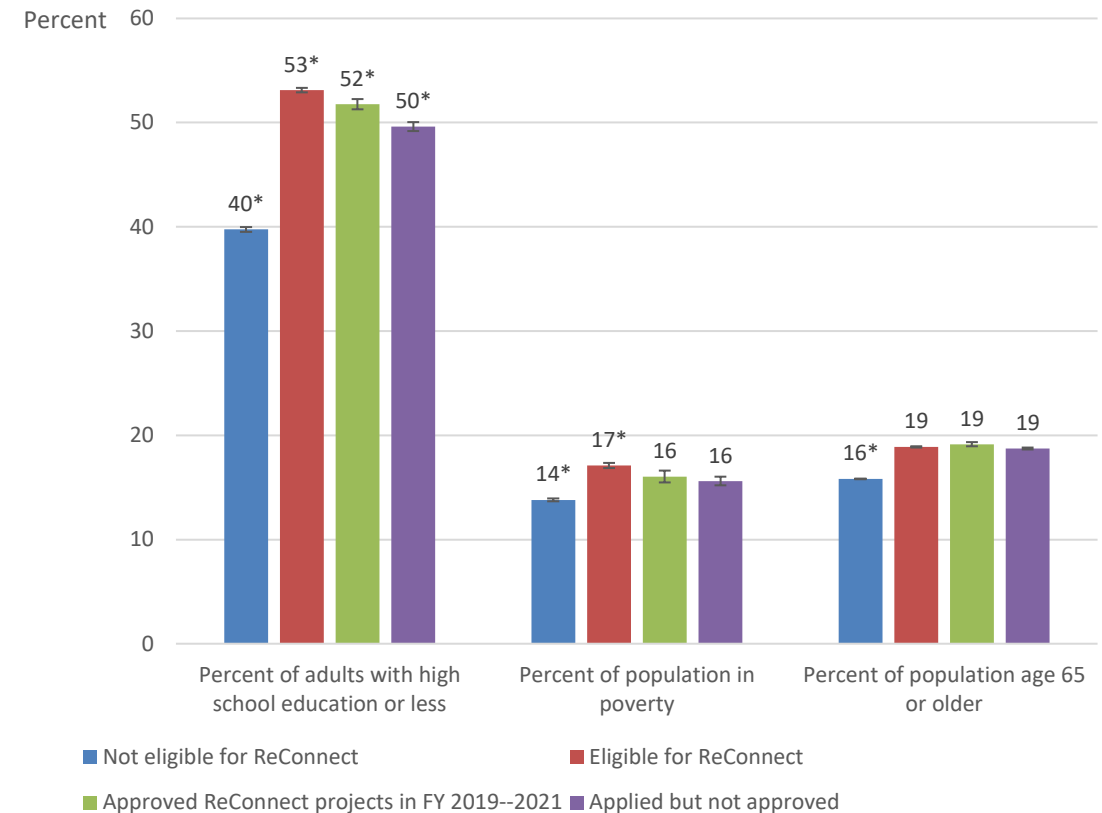

Source: Pender et al. (2023)

Conclusions

- Addressing the digital divide may be important for health outcomes

- Several USDA programs seek to address the digital divide

- BIP and ReConnect have been the largest two USDA broadband programs (in terms of appropriations)

- BIP projects reached about 10 times as many people (1.3% of U.S. population in 2010) as ReConnect projects approved in FY 2019-21 (0.12% of U.S. population in 2020)

- Both programs served rural areas to a greater extent and American Indians/Alaska Natives, Whites and non-Hispanics more than other racial and ethnic groups

- Both programs served populations that were less educated, poorer, and older on average than populations in unserved areas (for BIP) or ineligible areas (for ReConnect)
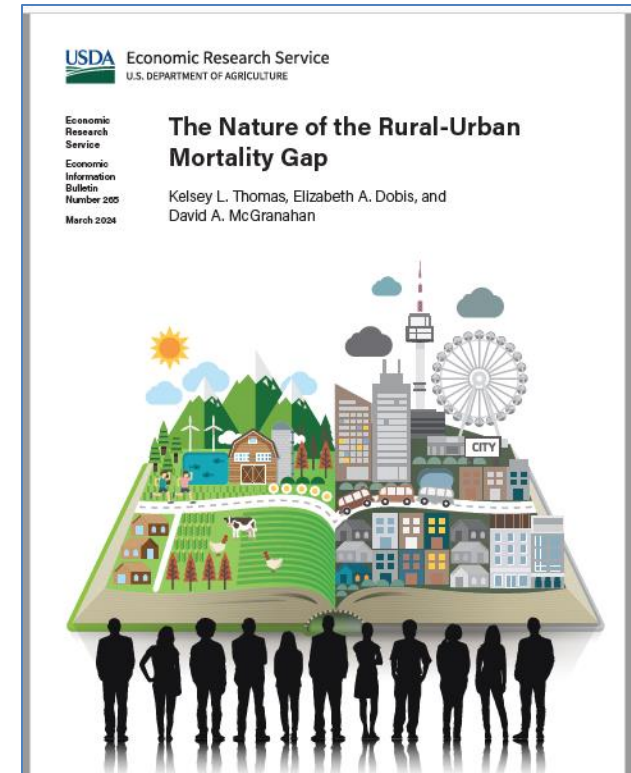
For More Information

Most of the information in this presentation is drawn from Pender et al. (2023):
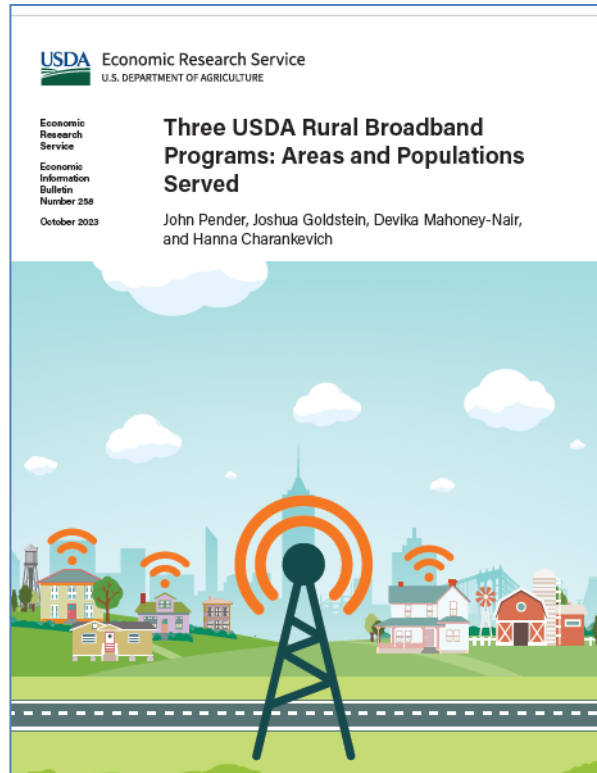
You may also be interested in this ERS report by Thomas et al. (2024):

Questions? Contact John Pender (john.pender@usda.gov)

References

Federal Communications Commission (FCC) (2024). FCC National Broadband Map. https://broadbandmap.fcc.gov/home.

National Telecommunications and Information Administration. (2024). Data Explorer. https://www.ntia.gov/data/explorer#sel=internetUser&disp=map.

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Thomas, K., Dobis, E., & McGranahan, D. (2024). The Nature of the Rural-Urban Mortality Gap. USDA Economic Research Service Economic Information Bulletin No. 265, https://www.ers.usda.gov/publications/pub-details/?pubid=108701.

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