

## Broadband Issues Brief 2022-1

### A Granular Look at Internet Speeds and Demographic Groups: Implications for Digital Equity

Roberto Gallardo, Purdue University Center for Regional Development  
Brian Whitacre, Oklahoma State University

#### Introduction

Among many issues that the COVID-19 pandemic has revealed, it is now clear that digital exclusion (also known as the digital divide) has negative consequences for individuals and communities. Stories of students falling behind due to lack of internet connectivity (Auxier & Anderson, 2020) or mortality due to limited internet access (Lin et al., 2022) have shaken our society to its core. In addition, as society and the economy continue to digitize, what was perceived to be a “*could have*” technology quickly became a “*must have*”.

This change in perception has resulted in an urgent need to better understand the state of digital equity across the country. Digital equity is “a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy” (National Digital Inclusion Alliance, n.d.).

Digital equity is an issue across a variety of demographic characteristics. Rural areas have consistently lagged their urban counterparts in terms of broadband availability, adoption, and internet use (Vogels, 2021; Whitacre, 2021). Younger age groups tend to use the internet more compared to older groups (Pew Research Center, 2017), while race/ethnicity differences have decreased over time (Goldberg, 2022). However, these data points rely primarily on individual surveys.



#### Summary Focus and Findings

This brief takes a granular look at broadband access using three broadband speed thresholds and 2020 Census block-level data in the nation and southern region of the U.S. Results indicate that rural Census blocks continue to lag urban blocks and that the share of population, including children, declines significantly when looking at faster speeds. Surprisingly, a higher share of minorities resided in Census blocks with broadband at faster speeds compared to Whites. Robust efforts, including leveraging Extension’s trust and partnerships with providers, are needed to ensure everybody can benefit from adequate internet.

For the first time, a granular look at broadband speeds in use by households and businesses (and not simply made available by internet providers) is possible at the Census block level, across the entire country. These new data allow for a better understanding of the speeds in use by race/ethnicity and urban/rural categories. This report compares selected 2020 Census demographics with Q1-Q4 2020 broadband performance open data from Speedtest® by Ookla® Global Fixed and Mobile Network Performance Maps (Ookla Speedtest, 2022). The Ookla data were available at the quad level and geocoded into Census blocks, providing a detailed look at the speeds being used by specific demographic groups, allowing us to better assess patterns of usage and causal factors.

## Summary Findings

### Digital Divides Persist Between Groups

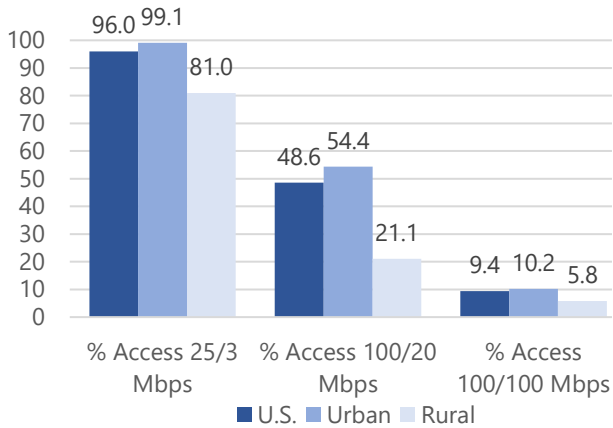
This analysis includes more than 94% of all U.S. residents as of the 2020 Census. Table 1 shows the percent included in the analysis since not all Census blocks had speed test results or had less than five speed tests completed. All but American Indian and Alaska Native groups had more than 90 percent of their population included in the analysis; however, rural shares were much lower due to sparse speed test data in those locations.

Table 1. Percent of 2020 Census Population Included in the Analysis

Census Population	U.S.	Urban	Rural
Total	94.3	98.8	77.4
White alone, non-Hispanic	92.8	98.7	78.4
Minorities	96.3	99.0	73.8
Black alone, non-Hispanic	95.2	98.5	70.6
American Indian and Alaska Native alone, non-Hispanic	77.2	94.3	56.3
Asian alone, non-Hispanic	99.2	99.7	88.0
Native Hawaiian and Other Pacific Islander alone, non-Hispanic	97.6	99.2	81.7
Some other race alone, non-Hispanic	95.5	98.9	74.6
Two or more races alone, non-Hispanic	93.6	98.5	73.5
Hispanic	97.3	99.2	77.5
Children	94.3	98.8	76.9

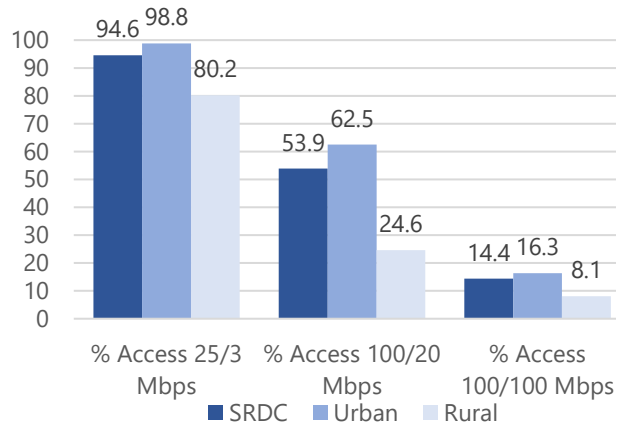
Figures 1 and 2 show the percent of population reporting speeds in use at or exceeding three tiers by urban and rural areas for the nation and the Southern Rural Development Center (SRDC) multi-state region.<sup>1</sup> A higher share of the urban population demonstrated speeds exceeding each tier compared to rural in both the U.S. and the SRDC region. In addition, as the speed threshold increases, the share of the population residing in blocks with those speeds decreases. For example, 81% of rural residents were in areas with speeds greater than 25/3 Mbps, but only 21% had speeds exceeding 100/20 Mbps.<sup>2</sup>

Figure 1. Percent U.S. Population in Areas with Speed Tiers by Urban-Rural



Source: Census 2020; Q1-Q4 2020 Ookla Speedtest Fixed Open Dataset. Additional analysis by authors.

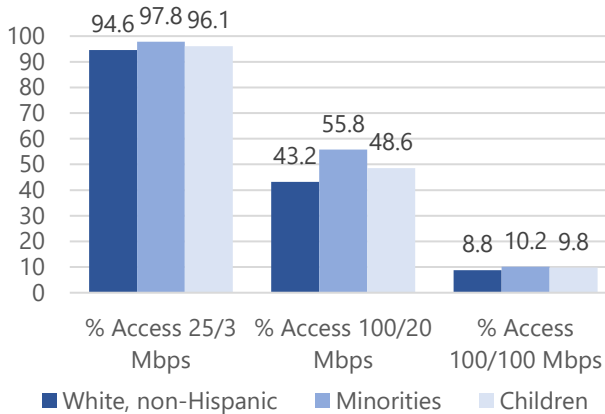
Figure 2. Percent SRDC Population in Areas with Speed Tiers by Urban-Rural



Source: Census 2020; Q1-Q4 2020 Ookla Speedtest Fixed Open Dataset. Additional analysis by authors.

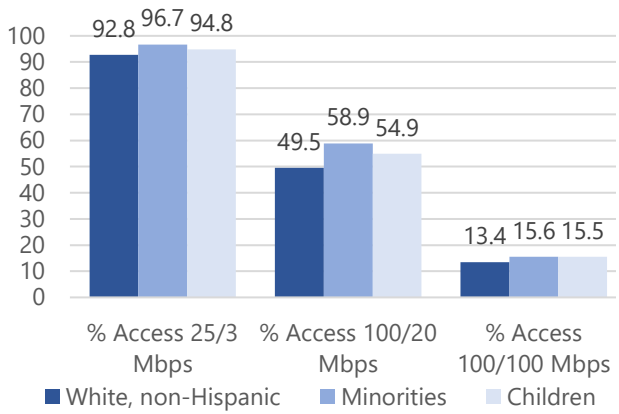
Figures 3 and 4 show the percent of the population in areas by speed category, race/ethnicity, and presence of children in the U.S. and SRDC region. As speed tiers increase, the share of the respective population group potentially accessing those speeds declines. However, the share of minorities residing in areas with a specific speed is higher than that for Whites across all tiers. This is consistent with recent surveys demonstrating increasing internet use by minorities (Pew Research Center, 2021<sup>12</sup>; Goldberg, 2022). There is also evidence of a “homework gap” (children without connectivity) in both the U.S. and the SRDC region, where roughly only half of children living in Census blocks with internet at 100/20 Mbps.<sup>3</sup>

Figure 3. Percent U.S. Population in Areas with Speed Tiers by Race/Ethnicity and Children



Source: Census 2020; Q1-Q4 2020 Ookla Speedtest Fixed Open Dataset. Additional analysis by authors.

Figure 4. Percent SRDC Population in Areas with Speed Tiers by Race/Ethnicity and Children



Source: Census 2020; Q1-Q4 2020 Ookla Speedtest Fixed Open Dataset. Additional analysis by authors.

## Recommendations

### Digital Equity has Quality of Life Implications

Community leaders need to identify digital equity as a priority. As shown in this research brief, and although different groups are affected in different ways, large percentages of groups and/or households are affected in the end. Consider that now Whites are lagging in internet use, especially at faster speeds. Robust efforts need to be conducted to narrow these differences including but not limited to:

- 1) Better understanding community's digital landscape (focusing on both broadband availability and adoption) to design and implement strategic efforts. Several tools exist that can help in this regard such as the National Telecommunications and Information Administration (NTIA) [broadband need map](#) as well as Purdue University's [digital divide index](#) and [digital distress](#) metrics.
- 2) Better positioning Extension to help tackle digital exclusion. Extension is well-known and trusted at the local level and should play a more prominent role in fostering digital equity. Extension personnel can help by facilitating meaningful discussions, providing planning technical assistance, provide digital skills/literacy workshops, and mobilize assets (such as 4-H youth) to map internet connectivity and/or work with other community groups on customized support.
- 3) Strengthening relationships to ensure affordable and adequate connectivity is available. Extension can bring people together to discuss and work with providers.
- 4) Making use of Digital Equity Act funding provided by the Infrastructure Investment and Jobs Act (IIJA), which provides for planning and implementation grants.

## Data and Methods

Total population, race/ethnicity population, and children at the 2020 Census block level were utilized. The race/ethnicity categories include (non-Hispanic): White alone, Black alone, American Indian and Alaska Native alone, Asian alone, Native Hawaiian and Other Pacific Islander alone, some other race alone, and two or more races alone. Hispanics of any race were also included. These groups are mutually exclusive. In addition, total population and children were also utilized.

The second open dataset was the Speedtest® by Ookla® Global Fixed Network Performance Maps accessed on April 2022 based on analysis by Ookla of Speedtest Intelligence® data for 2020 (Ookla Speedtest, 2022). Ookla compiled average download and upload speeds, latency, and number of tests into "quads" roughly 600 square meters geographies per quarter (3 months). For this analysis, a weighted average by tests per quarter was then calculated to obtain annual values. These were then geocoded to match 2020 Census blocks. The result is average download and upload internet speeds as well

as total speed tests per Census block. Census blocks with less than five speed tests were not included in the analysis to avoid skewing averages due to outliers.<sup>4</sup>

Once Ookla Speedtest open dataset values were aggregated per Census block, multiple internet speed test dichotomous variables were calculated to identify Census blocks where internet was used at 25 Megabits per second (Mbps) download and 3 Mbps upload or higher (25/3 Mbps), 100 Mbps download and 20 Mbps upload or higher (100/20 Mbps), and 100 Mbps download and 100 Mbps upload or higher (100/100 Mbps). These speed tiers were used because 25/3 Mbps is the current federal definition of broadband while the 100/20 Mbps is used in the Infrastructure Investment and Jobs Act (IIJA) as the upper limit to identify underserved areas. Lastly, 100/100 Mbps is used because it is the minimum speed expected to be available once IIJA funded broadband networks are built. After Census blocks were identified as offering these tiers they were meshed with Census 2020 population, race/ethnicity, and children counts and aggregated to Census tracts to be analyzed. Census blocks were identified as urban or rural using household density from 2020.<sup>5</sup>

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## Endnotes

<sup>1</sup> States in the SRDC region includes the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. (Regional territories are not included here.)

<sup>2</sup> An urban/rural breakdown across speed tiers by region and state is available in Appendix A.

<sup>3</sup> A breakdown by region, state, urban/rural, race/ethnicity, and children by speed tiers is available in Appendix B. For a breakdown by region, state, and urban/rural of share of total population analyzed by race/ethnicity and children, please refer to Appendix C.

<sup>4</sup> A total of 4.51 million Census blocks were analyzed of roughly 5.89 million with population or housing units representing 312 million residents or 94.3% of the total 2020 U.S. population.

<sup>5</sup> The 2020 Urban-Rural definitions were not available at the time of the analysis. A preliminary measure of 425 housing units per square mile being considered by the Census was used to identify urban blocks.

## Acknowledgements

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## About the Authors

Roberto Gallardo (PhD) is Director of the Purdue University Center for Regional Development and has conducted research and engagement around digital equity. Brian Whitacre (PhD) is Professor and Neustadt Chair in the Department of Agricultural Economics at Oklahoma State University, where he focuses on rural economic development.



## Appendix A – Percent Population by Region, State, Urban-Rural, and Speed Tiers

Percent Population Analyzed	Total	25/3 Mbps	100/20 Mbps	100/100 Mbps
U.S.	94.3	96.0	48.6	9.4
Urban	98.8	99.1	54.4	10.2
Rural	77.4	81.0	21.2	5.8
SRDC	93.1	94.6	53.9	14.4
Urban	98.7	98.8	62.5	16.3
Rural	78.2	80.2	24.6	8.1
Alabama	86.0	91.3	38.7	11.7
Urban	97.4	98.0	49.3	13.2
Rural	73.2	81.3	22.9	9.4
Arkansas	84.5	86.5	36.8	10.5
Urban	96.3	95.1	43.1	11.0
Rural	69.4	71.3	25.7	9.6
Georgia	92.9	95.3	61.5	17.6
Urban	98.7	99.4	73.1	21.2
Rural	81.0	85.0	32.5	8.6
Kentucky	89.7	91.4	44.9	6.5
Urban	98.9	99.0	61.9	7.6
Rural	78.1	79.2	17.5	4.7
Louisiana	90.2	93.4	43.7	8.3
Urban	97.7	98.4	50.2	9.1
Rural	75.3	80.5	26.8	6.3
Mississippi	77.6	84.2	34.2	15.1
Urban	94.2	94.3	40.1	15.3
Rural	64.4	72.5	27.4	14.9
North Carolina	94.1	95.7	46.3	13.8
Urban	98.9	99.7	62.1	19.7
Rural	86.8	88.6	18.7	3.4
Oklahoma	87.0	89.8	41.6	13.0
Urban	96.7	96.8	46.5	11.9
Rural	66.8	68.8	26.7	16.0
South Carolina	86.8	95.6	39.3	7.2
Urban	95.8	99.2	46.2	7.4
Rural	72.1	87.9	24.4	7.0
Tennessee	91.5	96.2	52.9	21.6
Urban	98.6	99.6	63.8	25.2
Rural	80.1	89.7	31.6	14.4
Texas	96.3	94.0	63.2	16.4
Urban	99.2	98.3	69.3	17.8
Rural	81.2	66.2	24.1	7.5
Virginia	93.6	96.0	58.7	26.1
Urban	99.3	99.8	70.2	31.9
Rural	78.3	83.1	20.1	6.7

## Appendix B – Percent Population in Areas at Speed Tier by Location and Characteristics

% Pop. 25/3 Mbps	Total	WNH	Min.	BNH	AIANH	ANH	OTHNH	Hisp.	Children
U.S.	96.0	94.6	97.8	98.1	83.7	99.6	96.8	97.6	96.1
Urban	99.1	99.0	99.3	99.4	95.0	99.9	99.2	99.1	99.1
Rural	81.0	81.0	81.2	85.1	60.6	93.2	82.6	77.8	81.0
SRDC	94.6	92.8	96.7	96.7	87.2	99.3	95.4	96.7	94.8
Urban	98.8	98.8	98.9	98.9	97.0	99.8	99.0	98.8	98.8
Rural	80.2	79.7	81.4	83.2	71.9	92.1	81.5	78.8	80.5
Alabama	91.3	89.6	94.2	94.5	85.5	98.2	92.3	93.5	91.7
Urban	98.0	97.9	98.2	98.2	97.3	99.4	97.7	97.8	98.0
Rural	81.3	81.0	82.4	81.4	75.6	92.1	83.8	83.9	81.9
Arkansas	86.5	84.5	90.7	88.9	87.7	96.2	89.4	93.6	87.4
Urban	95.1	95.5	94.5	92.1	96.4	98.5	96.3	96.9	95.1
Rural	71.3	70.3	75.8	70.9	73.4	84.3	74.4	81.8	72.2
Georgia	95.3	93.0	97.6	97.4	94.5	99.4	96.3	97.8	95.6
Urban	99.4	99.3	99.5	99.4	99.2	99.9	99.5	99.7	99.4
Rural	85.0	83.7	88.0	86.9	84.1	94.0	87.0	90.1	85.8
Kentucky	91.4	89.9	97.4	98.8	92.5	98.9	94.4	97.2	91.4
Urban	99.0	98.8	99.5	99.6	98.8	99.8	99.1	99.6	99.0
Rural	79.2	78.6	86.0	90.6	81.2	91.0	82.0	86.3	79.1
Louisiana	93.4	91.6	95.5	95.2	90.5	98.2	94.2	97.2	93.4
Urban	98.4	98.6	98.2	97.8	98.6	99.7	98.4	99.4	98.3
Rural	80.5	79.7	82.4	81.6	77.2	87.5	82.6	85.9	80.8
Mississippi	84.2	82.7	86.0	85.2	78.9	96.6	87.7	89.4	84.3
Urban	94.3	96.5	92.5	91.9	93.8	98.4	95.4	93.9	93.9
Rural	72.5	72.3	72.9	70.7	74.0	92.5	77.2	80.8	72.7
North Carolina	95.7	94.9	96.9	97.1	83.6	99.4	96.5	96.8	96.1
Urban	99.7	99.7	99.8	99.8	99.2	99.9	99.7	99.7	99.7
Rural	88.6	88.7	88.3	88.0	76.7	95.7	89.7	89.4	89.2
Oklahoma	89.8	88.2	92.3	97.2	83.8	97.9	90.2	94.6	90.2
Urban	96.8	96.4	97.5	98.8	95.0	99.3	97.2	97.4	96.8
Rural	68.8	68.2	70.0	77.5	66.5	81.8	69.4	73.0	69.4
South Carolina	95.6	95.5	95.9	95.2	92.7	98.8	96.4	97.5	96.0
Urban	99.2	99.4	99.0	98.7	98.6	99.5	99.2	99.3	99.2
Rural	87.9	88.0	87.5	86.3	82.9	94.4	89.0	91.2	88.7
Tennessee	96.2	95.2	98.5	98.8	96.1	99.5	97.0	98.5	96.6
Urban	99.6	99.7	99.4	99.3	99.6	99.9	99.6	99.6	99.5
Rural	89.7	89.3	92.7	93.9	89.5	96.3	90.8	92.7	90.2
Texas	94.0	90.5	96.3	98.0	91.3	99.3	94.4	95.5	94.4
Urban	98.3	97.9	98.6	99.4	97.8	99.7	98.6	98.2	98.3
Rural	66.2	63.5	70.6	76.3	63.6	86.2	67.4	69.4	67.2
Virginia	96.0	94.2	98.4	97.9	95.8	99.8	97.5	98.9	96.6
Urban	99.8	99.8	99.9	99.8	99.9	100.0	99.9	99.9	99.8
Rural	83.1	82.0	87.1	85.4	83.0	95.8	85.9	89.0	83.8



## Appendix B – Percent Population in Areas at Speed Tier by Location and Characteristics

<b>% Pop. 100/20 Mbps</b>	<b>Total</b>	<b>WNH</b>	<b>Min.</b>	<b>BNH</b>	<b>AIANH</b>	<b>ANH</b>	<b>OTHNH</b>	<b>Hisp.</b>	<b>Children</b>
U.S.	48.6	43.2	55.8	56.7	30.7	65.1	49.3	54.6	48.6
Urban	54.4	50.6	58.6	59.5	38.9	66.1	53.9	56.9	53.8
Rural	21.2	20.2	24.9	27.6	13.8	41.6	22.2	22.5	22.0
SRDC	53.9	49.5	58.9	54.8	37.4	76.1	54.7	60.8	54.9
Urban	62.5	61.2	63.7	59.6	48.8	78.2	62.0	64.9	62.9
Rural	24.6	24.0	26.2	25.7	19.7	44.9	26.4	25.2	26.0
Alabama	38.7	37.9	40.0	39.7	34.3	59.1	39.9	36.1	39.6
Urban	49.3	52.5	45.5	44.3	49.4	63.4	49.2	43.1	49.3
Rural	22.9	22.8	23.5	23.3	21.5	37.4	25.3	20.4	24.5
Arkansas	36.8	36.0	38.4	32.7	36.3	55.3	39.1	44.2	37.5
Urban	43.1	44.3	41.3	35.0	42.2	57.9	44.4	47.1	43.0
Rural	25.7	25.3	27.2	19.4	26.5	42.3	27.6	33.7	26.6
Georgia	61.5	55.0	67.7	66.1	55.8	84.3	63.2	67.3	62.2
Urban	73.1	72.1	73.8	71.4	67.5	87.1	72.7	74.9	72.7
Rural	32.5	30.3	37.8	37.8	29.7	55.2	35.1	36.0	34.7
Kentucky	44.9	41.7	57.9	60.0	43.3	64.4	50.5	58.9	44.8
Urban	61.9	61.0	64.4	63.5	57.1	68.6	61.8	66.6	61.3
Rural	17.5	17.0	22.9	25.1	18.6	30.1	20.5	22.9	17.9
Louisiana	43.7	45.4	41.5	39.3	31.8	55.0	44.4	47.1	43.7
Urban	50.2	55.4	45.4	43.0	41.5	57.3	50.2	50.4	49.5
Rural	26.8	28.2	23.3	20.4	15.9	37.4	28.5	30.2	28.9
Mississippi	34.2	38.4	29.0	26.8	15.3	54.5	38.2	35.2	34.5
Urban	40.1	50.8	31.4	28.8	39.0	56.5	43.4	39.3	39.4
Rural	27.4	29.0	24.0	22.4	7.4	50.1	31.1	27.4	28.5
North Carolina	46.3	42.3	52.5	54.3	23.4	71.9	46.3	47.7	47.5
Urban	62.1	60.9	63.5	63.9	43.1	77.6	59.2	59.4	62.0
Rural	18.7	18.1	20.0	21.2	14.7	32.1	19.0	18.0	19.7
Oklahoma	41.6	40.9	42.7	46.7	31.8	51.3	41.2	45.9	41.6
Urban	46.5	46.4	46.7	48.1	38.5	52.4	46.2	48.1	46.0
Rural	26.7	27.2	25.6	29.7	21.6	40.1	26.4	28.5	27.7
South Carolina	39.3	40.4	37.5	35.0	33.8	50.3	40.2	41.0	40.5
Urban	46.2	48.1	43.2	41.0	43.8	53.1	46.1	45.1	47.3
Rural	24.4	25.5	22.0	20.0	17.2	33.5	24.9	26.8	25.1
Tennessee	52.9	51.5	56.3	51.0	51.9	76.0	56.3	62.7	54.0
Urban	63.8	66.6	59.5	52.4	63.7	78.9	66.4	67.8	63.7
Rural	31.6	31.1	35.2	35.1	30.0	54.3	32.3	34.6	33.3
Texas	63.2	60.7	64.8	71.0	58.3	80.1	65.2	60.8	63.0
Urban	69.3	71.0	68.4	73.5	66.7	80.9	71.3	64.7	68.4
Rural	24.1	23.1	25.8	31.5	22.7	51.2	25.5	23.7	24.9
Virginia	58.7	51.9	68.2	58.1	54.0	86.2	62.9	75.5	61.8
Urban	70.2	66.7	74.0	64.3	64.7	88.3	70.9	80.5	72.1
Rural	20.1	19.1	24.0	18.6	20.4	48.1	24.3	27.5	22.0

## Appendix B – Percent Population in Areas at Speed Tier by Location and Characteristics

<b>% Pop. 100/20 Mbps</b>	<b>Total</b>	<b>WNH</b>	<b>Min.</b>	<b>BNH</b>	<b>AIANH</b>	<b>ANH</b>	<b>OTHNH</b>	<b>Hisp.</b>	<b>Children</b>
U.S.	9.4	8.8	10.2	11.3	6.6	12.2	9.6	9.1	9.8
Urban	10.2	9.9	10.5	11.7	6.9	12.3	10.1	9.3	10.5
Rural	5.8	5.5	7.1	8.0	6.0	11.1	6.5	6.1	6.4
SRDC	14.4	13.4	15.6	13.8	11.0	25.4	15.8	15.4	15.5
Urban	16.3	15.9	16.7	14.8	12.8	26.1	17.5	16.3	17.3
Rural	8.1	8.0	8.3	7.5	8.2	15.9	9.4	7.9	9.0
Alabama	11.7	12.4	10.5	9.5	12.5	18.0	13.9	10.4	12.3
Urban	13.2	15.2	10.9	9.7	16.4	19.2	15.9	11.2	13.8
Rural	9.4	9.5	9.2	8.9	9.1	12.1	10.6	8.5	10.0
Arkansas	10.5	10.5	10.4	7.6	12.6	19.7	11.5	12.1	10.8
Urban	11.0	11.2	10.7	8.0	12.9	20.9	11.8	12.6	11.1
Rural	9.6	9.7	9.0	5.3	12.1	14.0	10.9	10.5	10.1
Georgia	17.6	15.2	19.9	19.7	16.6	27.4	19.3	17.4	18.4
Urban	21.2	20.4	21.7	21.4	20.4	28.1	22.4	19.4	21.7
Rural	8.6	7.6	11.0	11.2	8.3	20.0	10.3	9.3	9.9
Kentucky	6.5	6.4	7.0	6.5	6.8	10.0	7.2	6.7	6.9
Urban	7.6	7.7	7.4	6.7	7.5	10.6	8.1	7.1	8.0
Rural	4.7	4.7	4.8	4.5	5.5	5.0	5.0	4.8	5.1
Louisiana	8.3	9.4	7.0	6.3	6.4	11.6	8.8	8.1	9.3
Urban	9.1	11.0	7.4	6.7	8.4	11.5	9.5	8.1	10.0
Rural	6.3	6.8	5.2	3.9	3.0	12.5	7.0	8.3	7.6
Mississippi	15.1	19.2	9.9	8.6	6.2	26.3	15.8	12.5	15.4
Urban	15.3	23.2	8.9	7.4	13.7	25.9	16.0	12.1	15.3
Rural	14.9	16.2	12.0	11.2	3.7	27.0	15.5	13.4	15.5
North Carolina	13.8	12.4	15.8	14.7	4.2	33.0	14.6	13.8	14.7
Urban	19.7	19.4	20.0	18.0	11.9	36.6	19.8	18.0	20.4
Rural	3.4	3.4	3.3	3.3	0.8	7.5	3.8	3.1	3.8
Oklahoma	13.0	13.0	12.9	12.2	11.3	11.9	12.9	14.6	13.4
Urban	11.9	11.5	12.5	12.3	9.9	11.3	11.9	14.2	12.3
Rural	16.0	16.5	14.9	12.0	13.3	18.4	15.8	17.1	17.0
South Carolina	7.2	7.6	6.7	6.2	7.4	8.8	8.1	6.6	8.0
Urban	7.4	7.6	6.9	6.5	8.3	9.2	8.5	6.6	8.2
Rural	7.0	7.5	6.0	5.5	5.9	6.8	7.1	6.9	7.4
Tennessee	21.6	21.3	22.1	20.1	21.7	29.4	23.6	23.7	22.4
Urban	25.2	26.6	23.2	20.7	25.9	30.3	27.2	25.2	25.6
Rural	14.4	14.2	15.3	14.1	13.9	22.7	15.2	15.4	15.6
Texas	16.4	16.0	16.7	16.4	15.0	21.6	17.9	16.0	16.5
Urban	17.8	18.5	17.4	17.0	16.9	21.8	19.3	16.8	17.6
Rural	7.5	7.1	8.2	6.9	7.0	14.2	8.4	8.2	8.4
Virginia	26.1	22.8	30.7	22.2	22.6	48.9	29.7	32.8	29.4
Urban	31.9	30.4	33.4	24.7	28.2	50.2	34.0	35.1	34.9
Rural	6.7	5.9	9.3	6.3	5.2	26.0	9.0	10.7	7.8

## Appendix C – Percent Population Analyzed by Location and Characteristics

<b>% Pop. Analyzed</b>	<b>Total</b>	<b>WNH</b>	<b>Min.</b>	<b>BNH</b>	<b>AIANH</b>	<b>ANH</b>	<b>OTHNH</b>	<b>Hisp.</b>	<b>Children</b>
U.S.	94.3	92.8	96.3	95.2	77.2	99.2	93.9	97.3	94.3
Urban	98.8	98.7	99.0	98.5	94.3	99.7	98.6	99.2	98.8
Rural	77.4	78.4	73.8	70.6	56.3	88.0	73.7	77.5	76.9
SRDC	93.1	91.9	94.6	92.7	81.4	98.7	91.9	96.7	93.4
Urban	98.7	98.8	98.6	97.9	96.1	99.6	98.3	99.1	98.6
Rural	78.2	79.6	74.4	70.1	65.7	87.1	73.4	80.3	78.5
Alabama	86.0	85.4	87.1	87.4	67.1	95.6	82.8	88.3	86.3
Urban	97.4	98.2	96.5	96.4	94.6	98.8	96.3	96.6	97.4
Rural	73.2	75.2	67.5	65.7	53.8	82.4	68.0	73.8	73.4
Arkansas	84.5	83.5	86.6	85.1	79.2	93.9	83.5	90.4	85.4
Urban	96.3	97.2	95.0	93.0	96.1	98.7	96.1	97.4	96.3
Rural	69.4	70.6	64.1	57.5	61.4	75.6	64.8	71.6	69.8
Georgia	92.9	91.2	94.5	94.0	88.7	98.8	92.4	95.2	93.2
Urban	98.7	98.8	98.6	98.3	97.5	99.7	98.2	99.0	98.6
Rural	81.0	82.0	78.6	76.3	74.0	90.0	78.5	82.6	81.5
Kentucky	89.7	88.7	94.2	96.9	84.6	97.6	89.3	93.1	89.4
Urban	98.9	98.8	99.0	99.2	98.0	99.6	98.4	98.9	98.9
Rural	78.1	78.5	74.3	78.2	68.0	83.9	71.9	73.1	77.4
Louisiana	90.2	88.9	91.8	91.9	83.7	96.4	88.6	92.4	90.5
Urban	97.7	98.7	96.9	96.3	97.2	99.2	97.3	98.5	97.6
Rural	75.3	76.1	73.3	74.4	68.1	79.6	71.2	70.1	76.3
Mississippi	77.6	77.8	77.4	76.6	70.2	93.0	77.2	82.3	78.2
Urban	94.2	97.6	91.7	91.0	92.9	98.1	94.1	94.8	94.0
Rural	64.4	67.4	58.8	57.0	64.9	83.1	61.9	65.7	65.0
North Carolina	94.1	94.4	93.7	93.7	79.8	98.3	92.3	94.1	94.2
Urban	98.9	99.0	98.7	98.7	94.1	99.6	98.3	98.7	98.8
Rural	86.8	89.0	81.5	79.8	74.7	90.2	81.8	84.3	86.6
Oklahoma	87.0	86.3	88.0	92.2	78.2	96.0	86.3	91.8	87.6
Urban	96.7	96.5	96.8	97.4	94.8	98.8	96.6	97.0	96.8
Rural	66.8	68.5	63.2	56.4	61.5	73.2	65.6	64.7	67.4
South Carolina	86.8	88.3	84.5	82.6	70.2	93.9	85.4	88.9	87.1
Urban	95.8	96.8	94.3	93.7	92.3	96.3	94.9	95.2	95.4
Rural	72.1	75.5	65.7	63.9	50.2	81.4	67.8	72.2	72.8
Tennessee	91.5	90.3	94.3	95.2	85.5	97.6	89.3	94.6	91.6
Urban	98.6	98.9	98.1	97.7	97.4	99.5	98.1	98.8	98.5
Rural	80.1	80.8	75.1	73.7	69.7	85.5	73.6	76.8	79.7
Texas	96.3	94.8	97.3	97.1	92.6	99.5	95.5	97.2	96.8
Urban	99.2	99.1	99.2	99.4	98.4	99.8	99.0	99.1	99.2
Rural	81.2	81.9	80.2	71.7	74.1	89.4	77.6	82.2	82.8
Virginia	93.6	92.5	95.1	93.1	86.7	99.3	93.5	96.8	94.2
Urban	99.3	99.4	99.3	99.0	98.1	99.8	99.0	99.4	99.3
Rural	78.3	80.2	71.9	67.3	63.6	90.7	73.7	77.4	78.5

For Appendices B and C

WNH: White alone, non-Hispanic

Min.: Minorities, all other not include White alone, non-Hispanic

BNH: Black alone, non-Hispanic

AIANH: American Indian and Alaska Native alone, non-Hispanic

ANH: Asian alone, non-Hispanic

OTHNH: includes Native Hawaiian and Other Pacific Islander alone, non-Hispanic, some other race alone, non-Hispanic, and two or more races alone, non-Hispanic

Hisp.: Hispanic