



Connecting Forsyth County

Forsyth County's Digital Equity Plan

Version 1.0

Prepared by A/R360 Consultants | [FCDigitalEquity.org](https://www.FCDigitalEquity.org) | info@fcdigitalequity.org

Special Thanks

The Forsyth County Digital Equity Committees and Consultants extend a special thank you to the following organizations, staff, and individuals for their participation in this *Plan*. Their knowledge, assistance, and willingness to support the project were exemplary.

City of Winston-Salem; GIS, Mapping, and Design; Planning and Development Services Department

North Carolina Department of Information Technology **Broadband Infrastructure Office**

Neighborhood's Hands, Inc. and Dr. S. D. Patterson

Housing Authority of the City of Winston-Salem Community FCDE Event Volunteers: **Evelyn Chauvous**, Educator; **Sherry Greenwood**, Nurse; **Diane Joyner**, Wake Forest University, Office of Philanthropy

Plan Funders

The Committees and Consultants thank the funders of this *Plan* for their support.

Kate B. Reynolds Foundation

Z. Smith Reynolds Foundation

AT&T

NC State University Institute for Emerging Issues Grant for Building a New Digital Economy in NC (BAND-NC)

Prepared by

A/R360 Consultants, LLC, a management and project consulting firm comprising nonprofit and agency leaders, in conjunction with **Geodetic Analysis, LLC** and **SkyHawk Global Associates**.



Copyright © 2021

Contents

PART ONE: INTRODUCTION

01-07

Overview	02
Methodology	05
Definitions	07

THE ROLE OF THE INTERNET IN FORSYTH COUNTY

09-13

Combating Poverty with Digital Equity	11
Improving Health with Digital Equity	13
Supporting Educational Attainment with Digital Equity	13

THE WAY FORWARD

15-19

Data to Build a Digitally Equitable Forsyth County	17
Digital infrastructure	18

SETTING THE STAGE

21-31

Forsyth County is Diverse	23
The Lasting Legacy of Housing Discrimination	23
Forsyth County by the Numbers	29
Usage and Cost Summary	29

RECOMMENDATIONS

33-51

Immediate Actions	35
Short-term Actions	44
Long-term Actions	48

APPENDICES

53-65

Appendix A: History of the FDCE Steering and Planning Committees	54
Appendix B: Planning and Steering Committees Organizational Information	55
Appendix C: Computer Training Bridge Program Overview	62
Appendix D: Acronyms	63
Appendix E: Citations	64

PART ONE

Introduction

Overview	02
Methodology	05
Definitions	07



We know that when we as a nation take on significant challenges, we often succeed one town, one city, **one county at a time.**

OVERVIEW

Internet access has been hailed as the civil rights issue of the 21st century, and for a good reason. More Americans are online than ever before. We use the Internet to access healthcare, education, entertainment, even to do our jobs. Unfortunately, the worldwide web is not universally accessible to everyone in our nation. Residents of rural, low wealth, and communities of color are excluded from the benefits that the Internet provides at alarming rates. Just as previous generations worked to make progress in areas like rural electrification or the construction of the interstate highway system, our nation today must take steps to ensure that the Internet is accessible and available to all residents, regardless of race or socio-economic status. Getting the Internet to every individual is foundational to promoting opportunity, and to empowering individuals and communities. The Internet should be as ubiquitous as water, sewer, and electricity access. Every resident should have access, and every community should be covered.

The challenge of achieving digital equity is great, and bringing access to underserved communities is only the beginning. To take advantage of the possibilities the Internet affords, people need adequate Internet-enabled devices; access to affordable and robust high-speed Internet services; the skills to utilize these devices effectively; quality technical support; and access to applications and online content designed to improve and enhance their lives. Making this a reality in

Forsyth County, North Carolina, is the goal of this *Digital Equity Plan (Plan)*.

This *Plan* seeks to document the efforts and the ideas of an extraordinary group of people and organizations that set out to make Forsyth County's *Plan* a blueprint for counties across the country to follow. We recognize that this would be a massive undertaking at any time, and we are on the heels of some of the most turbulent years in American history. We know that when we as a nation take on significant challenges, we often succeed one town, one city, one county at a time, and it is with this spirit that the following report was created. At a time when racial inequities across our nation are more evident than ever before, this *Plan* calls on our community to approach the issue of digital equity with an impartiality lens, focusing first on the most underserved communities to ensure that all communities will benefit from the interventions that we set in place.

This Plan includes:

- | an overview of our methodologies;
- | an in-depth look at the impact of digital inequities in Forsyth County and how to address them;
- | detailed information on the digital demographics of the County; and
- | a set of solution-oriented action steps for bringing the vision of a digitally equitable Forsyth County to life.

This living document will serve as a blueprint for tackling digital equity in Forsyth County. With these actions in place, the Forsyth County Digital Equity Committees and its consultants, A/R360 Consultants, LLC (A/R360), are confident that Forsyth County can become an example of digital equity for North Carolina and the nation. Further details and data that support this *Plan* are available at [FCDigitalEquity.org](https://www.fcdigitalequity.org).

Who Suggested this Effort?

This *Plan* results from community leaders, stakeholders, agencies, and funders uniting to ensure that Forsyth County becomes a leader in the digital equity movement in North Carolina and the nation. This group is known as the Forsyth County Digital Equity Committee (FCDE) and includes a Planning Committee and a Steering Committee.

FCDE Mission

The Forsyth County Digital Equity Planning and Steering Committees exist to increase



awareness of digital inequity in the County, and enact and change through community collaboration to ensure that information technology is accessible, affordable, and relevant for all County residents, especially those in underserved communities.

FCDE Vision

Forsyth County is a thriving, inclusive community where all residents—especially residents of underserved communities—have equal access to learn, participate, and contribute to society through robust and digital information technology.

FCDE Planning Committee

The FCDE Planning Committee served as the primary contact for research, outreach, community engagement, and this *Plan*.

| **Martha Blevins Allman**, Senior Assistant Provost, Dean of University Collaborations, Wake Forest University

| **Darlie Dudley**, Community Relations Analyst, Housing Authority of the City of Winston-Salem

| **Layla Garms**, Program Officer, Equity in Education, The Winston-Salem Foundation

Lynda Goff, Executive Director, WinstonNet

Quentin Gunter, Interim EEO Officer,
Winston-Salem State University

Adam Hill, Executive Director, Forsyth
Futures

Lakisha Jordan, Incoming Executive
Director, WinstonNet

Tom Kureczka, Chief Information Officer,
City of Winston-Salem

Margaret Robinson, Community Member,
City of Winston-Salem

FCDE Steering Committee

The FCDE Steering Committee served as community outreach contacts, and provided feedback to the Planning Committee and A/R360 throughout the planning process.

Tonya Bellanger, Chief Executive Officer,
Quality Education Institute and Academy

Veronica Bitting, Equitable and Economic
Development Director, Neighbors for Better
Neighborhood

Yolanda Bolden, Assistant Library Director,
Forsyth County Public Library

Caitlin Burke, Program Officer, Z. Smith
Reynolds Foundation

Linda Carter, Neighborhoods Empowered
Through Technology, Career Support/
Scholarship Funding, Economic and
Workforce Development, Forsyth Technical
Community College

Tembila Covington, M.S., Strengthening
Neighborhoods & Families Program Director,
Neighbors for Better Neighborhoods

Jim DeCristo, Vice Chancellor for Economic
Development and Chief of Staff, University of
North Carolina School of the Arts

Kellie Easton, Executive Director,
Action4Equity

Reni Geiger, Director Mission Performance
Management, Goodwill Industries of
Northwest North Carolina

Stacey Harward, Mental Health Program
Coordinator, North Carolina Department
of Health and Human Services Community
Engagement and Empowerment Team

Jamie Herring, Recovery and Resiliency
Coordinator, Piedmont Triad Regional Council

Katura Jackson, Executive Director, Child
Care Resource Center

Alana James, Associate Director,
Community Engagement Wake Forest
Baptist Hospital

David Kwiatkowski, Chief Information
Officer, Forsyth County

Charlette Lindell, Partnership Director, The
Forsyth Promise

Paula McCoy, Interim Director, Partnership
for Prosperity

Effie McMillan, Ed.D., Executive Director of
Equity, Access, and Acceleration, Winston-
Salem/Forsyth County Public Schools

Calvin McRae, Vice President of Public
Policy, Greater Winston-Salem, Inc.

Santiago Ramos, Community Member,
Winston-Salem, NC; and Entrepreneur and
Community Organizer, Navigator Lead, Love
Out Loud, Partnership for Prosperity

Kevin Sherrill, Assistant Superintendent
of Information Technology, Winston-Salem/
Forsyth County Public Schools

Pamela Shortt, Dean, Business and
Information Technologies, Forsyth Tech
Community College

Elizabeth Skinner, Deputy Library Director,
Forsyth County Public Library

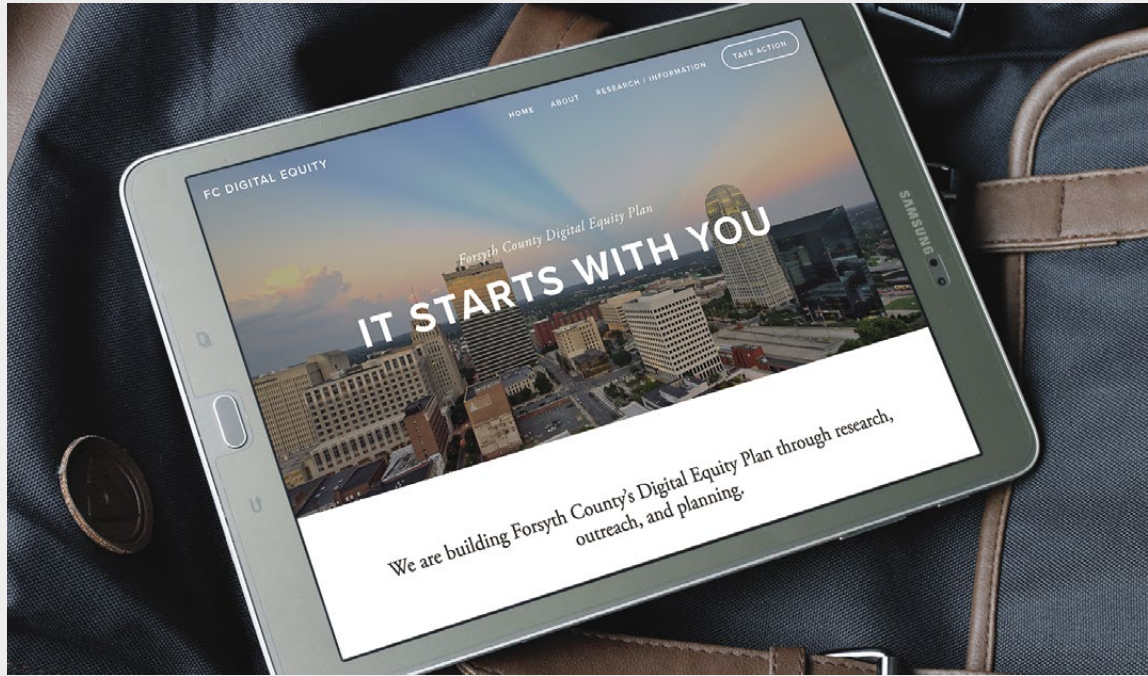
Rodd Smith, Director, Place-Based
Initiatives; Community Planning and
Investment, United Way of Forsyth County

Pamela C. Spalding, Business Manager,
Z. Smith Reynolds Foundation

Trina Stephens, Program Manager, MDC

Shenell McClurkin Thompson, Senior
Program Officer, Local Impact Program Area,
Kate B Reynolds Charitable Trust

Linda Winikoff, Executive Director, Old Town
Community CDF Freedom School



METHODOLOGY

The Forsyth County Digital Equity (FCDE) Committee contracted with A/R360 Consultants, LLC (A/R360) in March 2021 to create the County's *Plan*. The following methodology to develop and write the *Plan* took just over three months.

Step One

Identified a process to create a *Digital Equity Plan* and launched the project website, [FCDigitalEquity.org](https://www.fcdigitalequity.org).

A/R360 encouraged the Planning Committee Members to ensure that Members of the Committees included public, private, and nonprofit sector individuals from the

County, such as local elected officials; experts in broadband infrastructure development; stakeholders in workforce and economic development; and individuals with education experience.

Step Two

Conducted research to understand the current state of broadband access across the County and the underlying causes for the inequities.

A/R360 researched and reviewed relevant plans, studies, reports, and technical information to understand current access to broadband, device access, Internet speed, and digital literacy across the County.

Step Three

Conducted research to understand the needs of the residents for broadband access across the County.

A/R360 worked with the Committees to organize and execute a multi-method community strategy to access critical ideas, obstacles, and opportunities for broadband Internet in the homes of County residents. A/R360 conducted hundreds of surveys, interviews, and meetings with community members identified by Committee Members. In addition, Committee Members conducted two focus groups with residents to garner additional information feedback.

Step Four

Engaged local stakeholders to solicit input and feedback on key elements of the *Plan*.

A/R360 met with local stakeholders to speak with them about their experience using broadband Internet in the County, as well as assisting residents and their constituents in using the Internet. Stakeholders included nonprofit leaders; local town and County officials; and other organizational representatives from across the County.

Step Five

Developed and wrote County-Wide *Digital Equity Plan* and published findings on [FCDigitalEquity.org](https://www.fcdigitalequity.org).



Photo by Ruthson Zimmerman

DEFINITIONS

The following definitions will set a baseline for phrases used throughout the rest of this *Plan*. Definitions and examples are from the National Digital Inclusion Alliance, digitalinclusion.org.

The **Digital divide** refers to the gap between those who have access to Internet-enabled devices and the Internet and those who do not.

Internet access means the ability of individuals to access the Internet using any Internet-enabled device.

Internet adoption means the percentage of the population that subscribes to Internet services.

Digital equity is achieved when all communities and residents have the information technology (access and Internet-enabled devices) needed to participate entirely in society, economy, and democracy. Digital equity “is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.”¹

Digital inclusion concerns all activities that individuals and communities, including those most disadvantaged, carry out to access, and use Information and Communication Technologies (ICTs). Digital inclusion activities and programs must evolve as technology advances, while “requir[ing] intentional strategies and investments to reduce and eliminate historical, institutional,

and structural barriers to access and use technology.”² Digital inclusion includes:

- “affordable, robust broadband Internet service;
- Internet-enabled devices that meet the needs of the user;
- access to digital literacy training;
- access to quality technical support; and
- access to applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration.”³

Digital literacy, as defined by the American Library Association, is the ability to use digital tools to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. A digitally literate person is one who:

- “possesses the variety of skills – technical and cognitive – required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats;
- can use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information;
- understands the relationship between technology, life-long learning, personal privacy, and stewardship of information;
- can use these skills and the appropriate technology to communicate and collaborate with peers, colleagues, family, and on

occasion, the general public; and

is capable of using these skills to participate in civic society actively and contribute to a vibrant, informed, and engaged community.”⁴

For this *Plan*, we will use the Federal Communications Commission (FCC) definition of **Broadband Internet** to define Internet access. The FCC states that a broadband Internet connection has a minimum download speed of 25 Mbps (megabits per second) and a minimum upload speed of 3 Mbps.⁵ Generally speaking, a baseline for defining high-speed Internet is 100 Mbps.

“Digital literacy has a branding problem... the worst thing you can do is tell a grown person they have to do something. So, we have to figure out a way to frame tech in terms of **how it helps you get what you want.**”

—FCDE Interviewee

PART TWO

The Role of the Internet in Forsyth County

Combating Poverty with Digital Equity	11
Improving Health with Digital Equity	13
Supporting Educational Attainment with Digital Equity	13

Figure 2.1 Poverty Level Map of Forsyth County

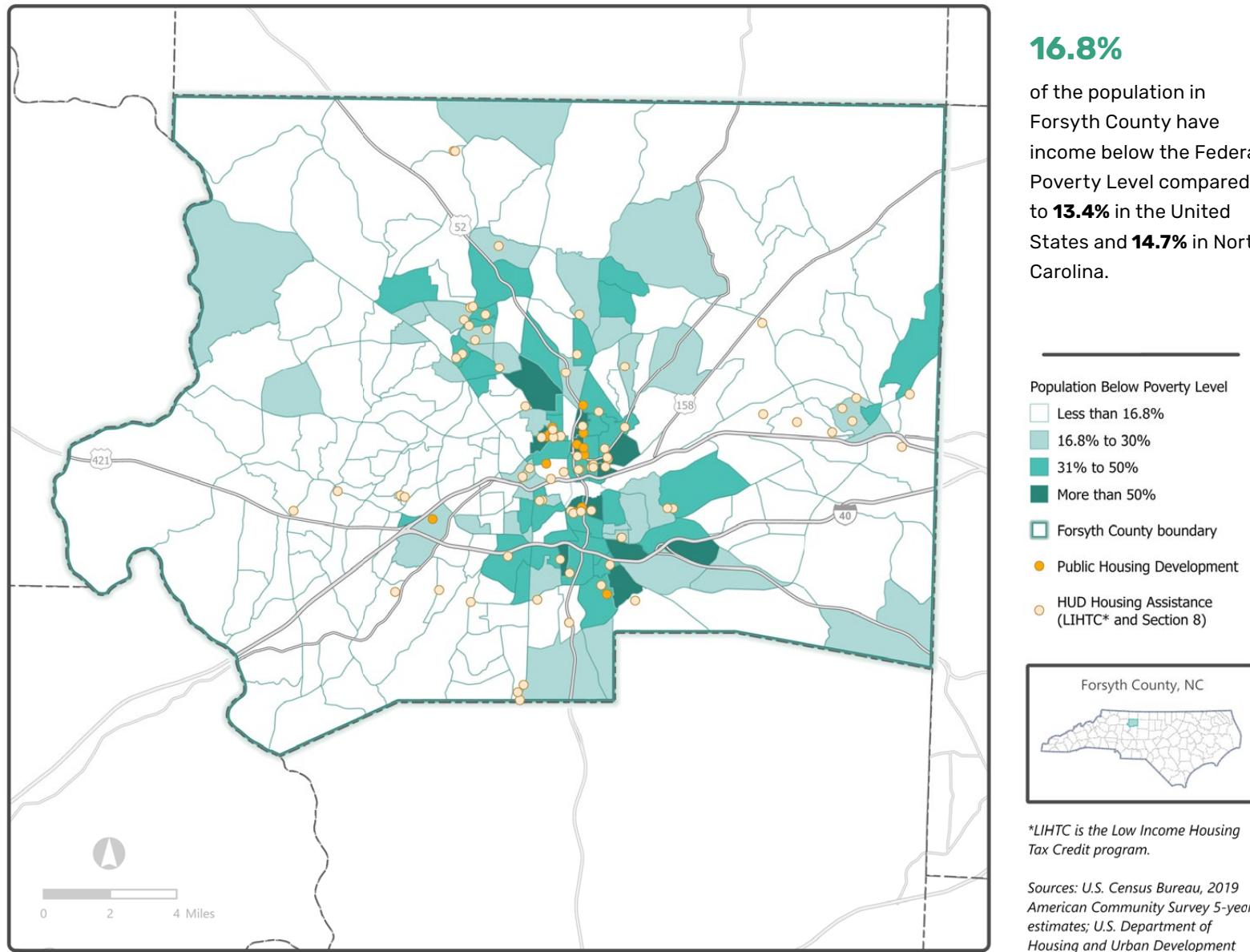
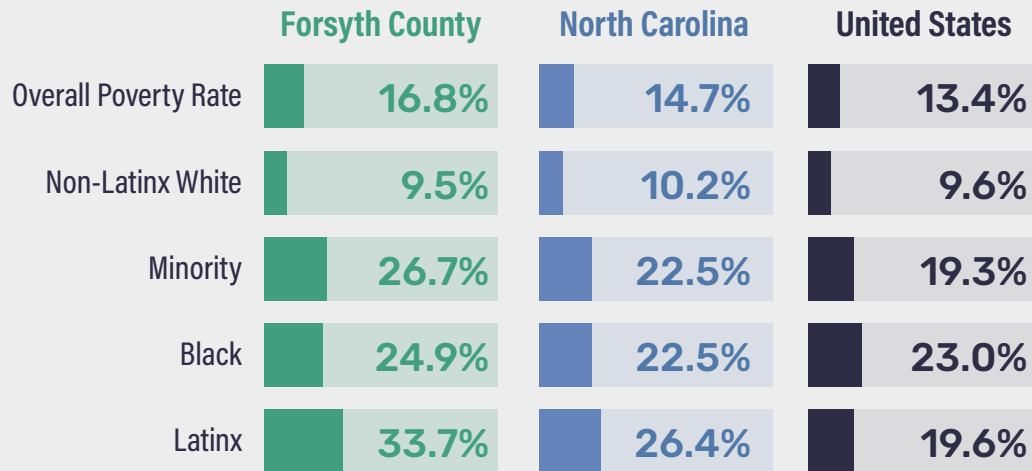


Figure 2.2 A higher percent of minorities are in poverty compared to non-Latinx whites.



Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates

The Internet plays a vital role in the lives of Forsyth County residents, and those who do not have consistent or convenient access to broadband Internet in the home are at a distinct disadvantage. Although broadband Internet access should not be held up as a solution to all that ails us as a society, digital equity is a powerful tool that plays a vital role in reducing systematic and long-term inequities. Getting online can make life-changing tasks simple and accessible; for example, granting access to financial services regardless of physical location, unlocking employment opportunities, enabling remote work, and removing barriers to entrepreneurship.

Combating Poverty with Digital Equity

A 2016 study by the World Bank showed that in developed countries like the U.S., every time broadband Internet penetration rises 10%, the gross domestic product (GDP) rises 1.19%.⁶ Numerous factors lead to this growth, but all hinge on one clear fact: the information economy is built on the backbone of the Internet.

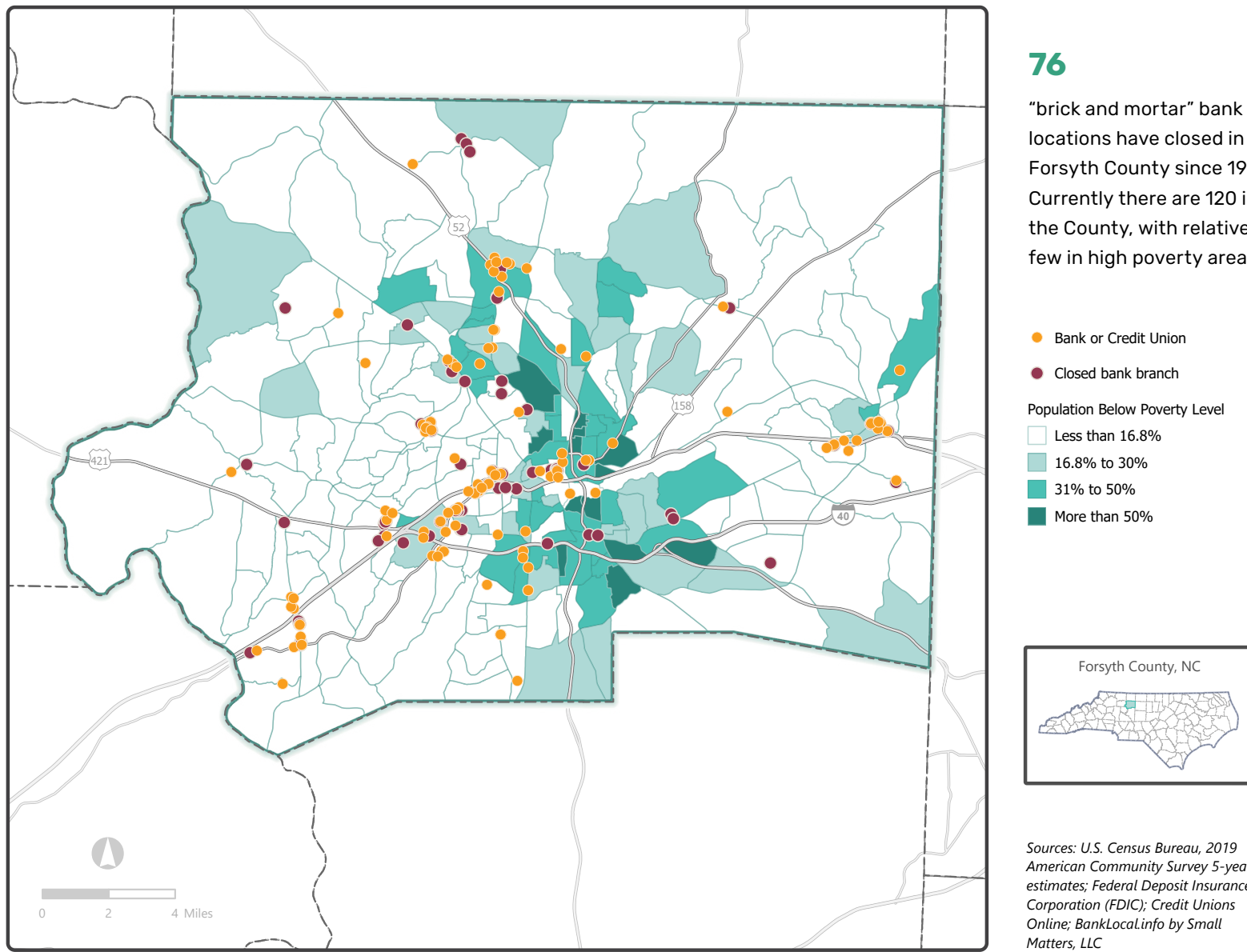
Poverty rates in Forsyth County are significantly higher than State and national averages; and communities of color are more than likely to live in poverty. **Figures 2.1 and 2.2** detail the neighborhoods of

poverty across the County and how race plays a factor in poverty. However, suppose the global trend of broadband driving up GDP holds true at the local level. In that case, the poverty rate and the racial wealth gap in Forsyth County could be significantly reduced through a robust digital equity effort.

Digital equity can help improve health, educational opportunities, and access to financial services. The financial crisis of 2008–2009, along with more significant national trends in the banking industry, has accelerated the closing and consolidation of banking institutions across the U.S.

Financial institution closures and consolidations leave communities in urban and rural areas without essential traditional financial services. The growth of the Internet and mobile banking options have made access to non-traditional banking more available and manageable, which is crucial to populations that may face transportation challenges, including older adults and individuals with disabilities. Data in Forsyth County indicates that rural and poor urban communities have less access to traditional banking services. Therefore, consistent and reliable broadband access creates financial services access otherwise unavailable. **Figure 2.3** shows where a financial institution branch has closed since 1999 and where others are open, against the poverty level in the County. What we are seeing is that those living in the lowest socioeconomic neighborhoods have very few banking options.

Figure 2.3 Financial institutions in Forsyth County



Improving Health with Digital Equity

America continues to face a variety of health epidemics, from obesity to heart disease. Improving the health of a population today is significantly impacted by Internet connectivity. Many Americans utilize the Internet to educate themselves about critical health-related topics, such as diet and exercise. Telehealth is also on the rise, and access to electronic health records and other pertinent information is now available to patients online.

The novel coronavirus SARS-CoV2 (COVID-19) vaccine release is a key example demonstrating the impact Internet access has had on the ability to get vaccinated. To date, most procedures for obtaining the vaccine require some form of online registration, which presents an added barrier for those without broadband in the home and could impede their ability to access the life-saving vaccine safely and efficiently.

Supporting Educational Attainment with Digital Equity

The COVID-19 pandemic and the accompanying shutdowns and stay-home directives highlighted the importance of Internet connectivity for education. The disparity of opportunities between students with computers and reliable, high-speed Internet access had been an issue before the pandemic. However, the arrival of the pandemic exacerbated those disparities as both teachers and students found themselves

thrust into the online education arena. It became abundantly clear that the educational playing field simply is not level for those without the digital tools that both Internet access and digital literacy provide.

ONLINE EDUCATION

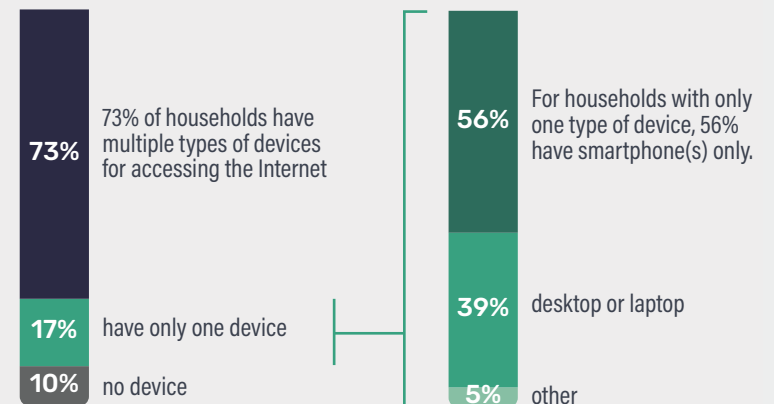
For American students taking the SAT, one first stop is often Khan Academy®, the free, online academy that offers courses in math to art history. Understandably, test-takers flock there. Spending 20 hours on SAT prep with Khan Academy produces, on average, a 115-point improvement in scores.⁷ This 115-point improvement influences college applications; merit-based financial aid and scholarships; and acceptance into programs at the colleges of students' choices. It can mean the difference between a scholarship and having to work through college/university—all factors that keep disadvantaged students disadvantaged as they work their way out of poverty.

Students today utilize the Internet to learn about the world around them, from current events to science, history, grammar, and research on every subject imaginable. The Internet is a necessary first stop for both formal and informal education.

Lack of Internet connectivity and Internet-enabled devices in the home persists in Forsyth County. According to Census Bureau estimates, as detailed in **Figure 2.4**, 17% of County households have only one Internet-enabled device, whether it is a desktop, laptop, tablet, or smartphone. In fact, of those households with only one Internet-enabled device, 56% only have a smartphone, which presents a significant barrier for accessing and completing schoolwork. A disproportionate number of households that only have smartphones are households of color, which is substantial considering that Black and Latinx students' achievement rates in Forsyth County are well below their non-Latinx white counterparts.

Figure 2.4
Computer devices in households

Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates



PART THREE

The Way Forward

Data to Build a Digitally
Equitable Forsyth County
Digital Infrastructure

17

18



This *Plan* lays out a way forward that is designed to underpin and enable the efforts of all residents and organizations in Forsyth County that are working to solve the persistent and complex challenge of digital inequity.

Data to Build a Digitally Equitable Forsyth County

This *Plan* aims to provide a roadmap to make the vision for digital equality in Forsyth County a reality. Communities across the country are considering various promising approaches that will ensure residents and visitors have access to the necessary tools for engagement in modern society's digital and technological features. In doing so, several key precursors should also be explored for fostering access to and use of the digital assets needed to thrive in an economy that is increasingly reliant on the Internet for an array of societal interactions.

In recent years, America's cities, counties, regions, and states have taken stock of matters that promote diversity, equity, and inclusion (DEI). Social justice has been in keen focus all over the nation, and increasingly so in recent months. Many governmental functions have also come under scrutiny within the context of this movement, from criminal justice to healthcare. However, a uniquely undergirding facet of our culture sits in need of similar attention—digital equity.

Jurisdictions from coast to coast and internationally are examining ways better to integrate all residents into today's Internet-

propelled economy. The key to such an effort is high-speed Internet access, the lifeblood of the digital world. High-speed Internet access is the enabling and equalizing service that can help engage and enlighten whole swaths of communities or, in its absence, leave them inopportunately behind.

To understand where gaps exist, communities should examine several indicators. The insights outlined throughout this *Plan* point to several areas where Forsyth County can focus its resources to bring residents fully into the digital economy. Also included are markers that help shape the overall understanding of a community so that County leaders can act from a more holistically informed setting. The presence, level of opportunity, and details regarding racial disparities are critical factors in the equation.

To support the examination of these dynamics, this *Plan* drew from three specific sources:

- the Opportunity Index (Enterprise Community Partners);⁸
- the Diversity Study Series (WalletHub);⁹ and
- Consultant's in-depth data collection.

While the information gathered from these three sources is not conclusive as a final determinant, it can present planners with added awareness about their community.

The Opportunity Index provides data that show what opportunity looks like in a community.

It provides a snapshot of "conditions that can be used to identify and improve access to opportunity—in comprehensive terms—for residents and their communities."¹⁰ These indicators can be explored by visiting opportunityindex.org.

The data and analysis show trends over time and what access to opportunity looks like at a given interval. It considers an array of factors that "influence the kinds of opportunity people have, starting with unchangeable characteristics, such as gender; race and ethnicity; genetic factors and family background."¹¹ The Index provides a broad picture of opportunity beyond economics alone, and includes indicators within four dimensions of community well-being: economy, education, health, and community.

WalletHub's Diversity Study Series examines diversity from the perspectives of household, religion, socio-economics, and culture, with findings for 501 of the largest cities in the country. These indicators can be explored by visiting bit.ly/McCann2021.

Since America is undergoing rapid demographic diversification, it is essential that communities understand the nature of these changes and that fresh perspectives be considered as changes persist. Local economies need to find ways to leverage the wealth of knowledge and perspectives that diverse communities afford and implement approaches that channel economic growth,



especially in underserved communities. Achieving digital equity in Forsyth County will be dependent upon understanding the County's demographics and opportunity indices and how they are interrelated.

According to the Opportunity Index, overall indicators for North Carolina from 2016 to 2019 have been trending upward for the State's opportunity score.* In addition, the sub-indicator categories of the economy and community have also been trending upward. While, at the same time, the State's health indicator is on a downward trend. The County's trend on education has been on a modest downward trajectory.¹²

According to WalletHub's study, the City of Winston-Salem is positioned at #96, out of 501 most diverse cities in the U.S.¹³

* Though these data were released 2016-19, due to data lag, most of the data represent the years 2014-17.

Again, these sets of indicators do not provide a complete picture for community planners, residents, and leaders. However, they are helpful tools for establishing baseline performance metrics to help guide the success of a digital equity program. We encourage all interested parties to explore these resources as a feature of the planning and implementation process.

Community leaders, representatives, and residents who care about the digital future of the County were interviewed for this *Plan*. The respondents comprised a broad range of demographics, backgrounds, and experiences. These interviews revealed three core components that make up a vision for a digitally equitable community:

- a community with a robust digital infrastructure;
- a community that practices digital inclusion;
- and a community made up of digitally literate people.

Throughout this *Plan*, A/R360 has included data analytics to supplement residents' and stakeholders' firsthand experiences to support the need for digital equity and inclusion in the County.

Digital Infrastructure

Just as a physical community, such as a city, county, region, or state, relies on a solid public works system to grow and thrive as a community, digital infrastructure forms

the building blocks of a digitally equitable community. The most essential digital infrastructure for creating a digitally equitable community is true high-speed Internet access for every resident. For this *Plan*, we use the FCC definition of broadband Internet access as a minimum download speed of 25 Mbps (megabits per second) and a minimum upload speed of 3 Mbps.¹⁴

It is important to remember that many factors can affect actual Internet connectivity speeds and performance. Adding multiple Internet-enabled devices and using the Internet for demanding tasks, such as maintaining a Zoom class or teleconferencing for work, can hinder performance and make fast speeds seem slow. For high-speed Internet access to support most online activity, such as high-definition streaming, online gaming, web browsing, or downloading music, faster Internet speeds (those in the 100+ Mbps range) are often required, especially when that connection is needed to support multiple devices and users.

All conversations of speed, however, are irrelevant if the cost of that speed is prohibitively expensive. How is affordability determined? While defining affordability of service is a matter of personal budgeting and subjective decisions about value, recent legislation in states like New York help to set a standard. In 2015, New York State mandated that Internet service providers (ISPs) offer \$15/month access to the State's low-income residents. (ISPs serving more than 20,000 customers are required to provide this

discount and must meet the FCC minimum download speeds.)¹⁵

A solid digital infrastructure not only means that residents have high-speed Internet access; those residents must also have adequate Internet-enabled devices to get the best use out of that access. Refer to **Figure 2.4** (p. 13), to see what type of device most Forsyth County residents have in their households. Many residents of the County can take advantage of limited Internet connectivity through smartphones with data plans. However, residents with smartphone access cannot use many of the most valuable Internet services to make a genuine, lasting impact on their lives, raising their living standards. However, to access these services, a desktop computer or laptop that is Internet-enabled is essential.

Affordability plays a role as Internet-enabled devices have a wide range of price points. Innovative ways to help residents gain access to affordable Internet-enabled devices could be the subject of an entirely separate report. However, for this *Plan*, we will set the goal of an Internet-enabled device for every household, preferably a desktop computer or laptop. (Internet-enabled computers allow users to utilize the Internet to the fullest capabilities, including job applications, healthcare portals, education, etc. While smartphones and tablets can be used, government, health, and job application websites are often not built for smartphone use, and therefore their functionality will be limited.)



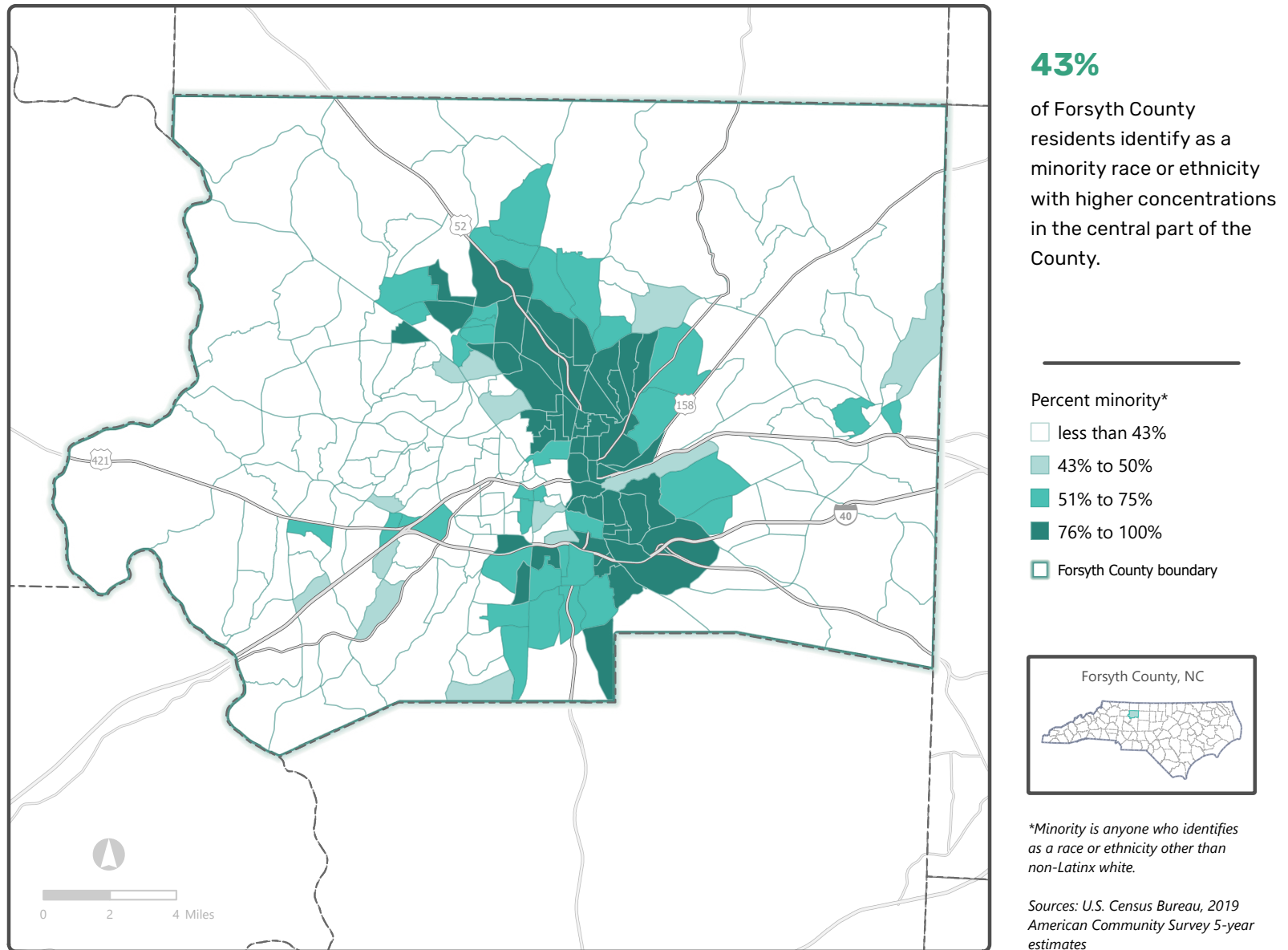
PART FOUR

Setting the Stage

Forsyth County Today

Forsyth County is Diverse	23
The Lasting Legacy of Housing Discrimination	23
Forsyth County by the Numbers	29
Usage and Cost Summary	29

Figure 4.1 Distribution of Minorities in Forsyth County



Several unique challenges face Forsyth County when it comes to achieving the vision of digital equity set out above.

Forsyth County is Diverse

In more homogenous places, creating digital equity is a more straightforward prospect. Counties around the country are tackling digital infrastructure problems with direct plans designed to extend fiber optic cable to rural areas or utilize connection-sharing schemes to lower the cost of high-speed internet access in densely packed urban apartment building blocks. The mix of residential real estate in Forsyth County presents a digital infrastructure challenge that cannot be overcome with a one-size-fits-all approach.

Forsyth County does not just have real estate diversity; it also has a diverse population—with 43% of the population identifying as a minority.¹⁶ The County seat, Winston-Salem, ranks in the top 100 for demographically diverse cities in America.¹⁷ While this is a point of pride for the County, this diversity means that residents all have different starting points when we strive to achieve digital literacy for all. **Figure 4.1** shows where residents who identify as minorities reside within the County in higher concentrations.

Looking at just one sliver of the population provides an example of the complexity of diversity in digital literacy. Since 2010, just over 2,700 Latin American immigrants have settled into Forsyth County. These recent

immigrants join the nearly 18,000 residents who moved to the County from Latin American countries before 2010. **Figure 4.2** details this information. Having English as their second language, this segment of the population may opt for Spanish language digital literacy classes. Still, their levels of expertise and facility with English will be drastically different than the rest of the population.¹⁸

The Lasting Legacy of Housing Discrimination

While the County’s diversity should be celebrated, we must not overlook the effect that a history of segregation in housing has on today’s Forsyth County residents. Research shows in most large cities with historically Black neighborhoods, the challenges to neighborhood stability are significant. According to Alan Mallach, a senior fellow at the Center for Community Progress, “the lack of home buyers in once-desirable Black

neighborhoods has created “a crisis of non-replacement. ...The more poverty increases, the more the remaining middle-class homeowners are going to leave, and fewer middle-class buyers are going to be coming in.”¹⁹

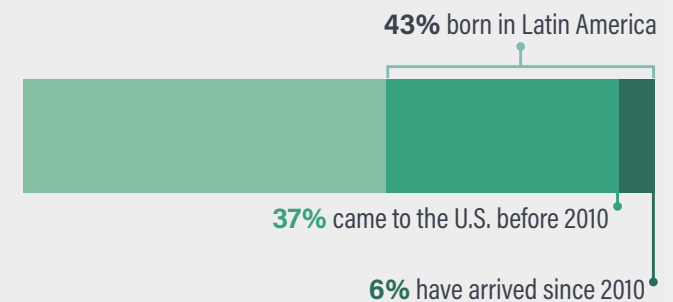
Furthermore, according to the Brookings Institution, in their study, *The devaluation of assets in Black neighborhoods*, “[d]iscrimination in real estate, including lending and appraising, has been well-documented. Homes in predominantly Black neighborhoods are undervalued by \$156 billion nationwide.”²⁰

Neighborhoods where Winston-Salem’s Black residents were once able to buy homes, are now home to a mix of an older, retired population made up of former white-collar working professionals or renters and poorer families and individuals. Policies that suppressed prices in neighborhoods where Blacks were the majority meant that these residents’ home

Figure 4.2 Latinx in Forsyth County

13% of the population in Forsyth County identify as Latinx

There are about **48,000** Latinx residents in Forsyth County.



Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates

values stayed low. These residents, unable to sell their homes, stayed in the area or in some cases moved to more diverse suburbs in a newly emerging phenomena of suburban migration, according to Alan Greenblatt, a senior staff writer for *Governing*.²¹

However, the next generation of residents in those same neighborhoods was more likely to be poorer, or dislocated or disadvantaged working-class renters, than individuals who work in offices and have more regular interactions with digital technology. The result is an unusual neighborhood mix of residents who have less experience in their everyday lives with technology than the generation before them might have had. **Figure 4.3** details the County's households who own vs. rent their homes, by race.

These changing neighborhoods also offer little return on investment for ISPs to build and connect the critical infrastructure needed to connect these residents and homes to the Internet and the digital economy. Poverty and lack of home ownership can, and do, widen the digital divide—pushing once-prominent communities of color deeper into further segregation.

Since Blacks make up a large part of the County's population, 26% compared to 12% nationwide, the echoes of discrimination of the past reverberate in a more pronounced way today.²² **Figure 4.4** details the minority populations of the County, State, and the U.S.

Figure 4.3 Home Ownership

72% of non-Latinx White householders own their home.
57% of minority households rent their homes.

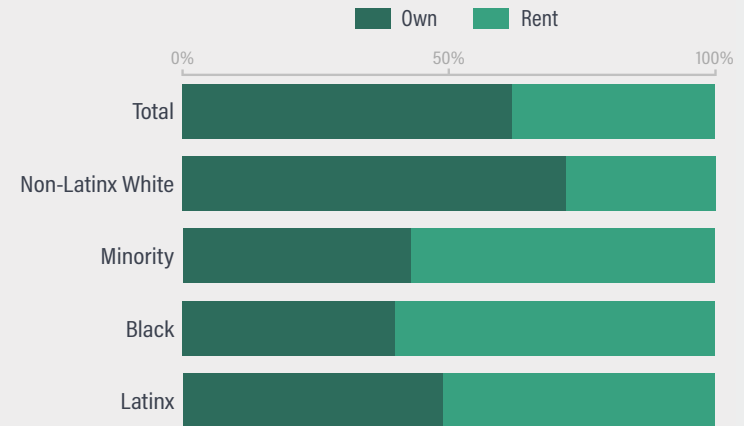


Figure 4.4 Race and Ethnicity

Race categories are for the non-Latinx population (i.e. white non-Latinx, Black non-Latinx, etc). Latinx can be of any race.

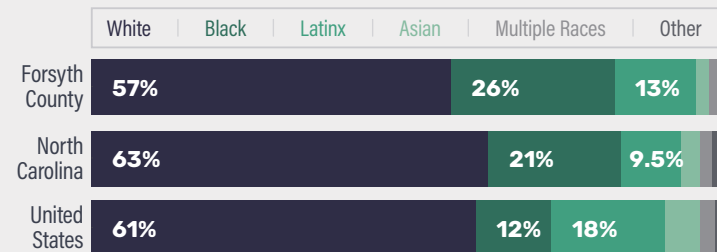


Figure 4.5 Household Access

23,570 households in Forsyth County do not have Internet access.
14,400 households have no computer.



Population

375,195



Households

146,820

16% No Internet

10% No Computer

Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates

Figure 4.6 Forsyth County Households Without Computers

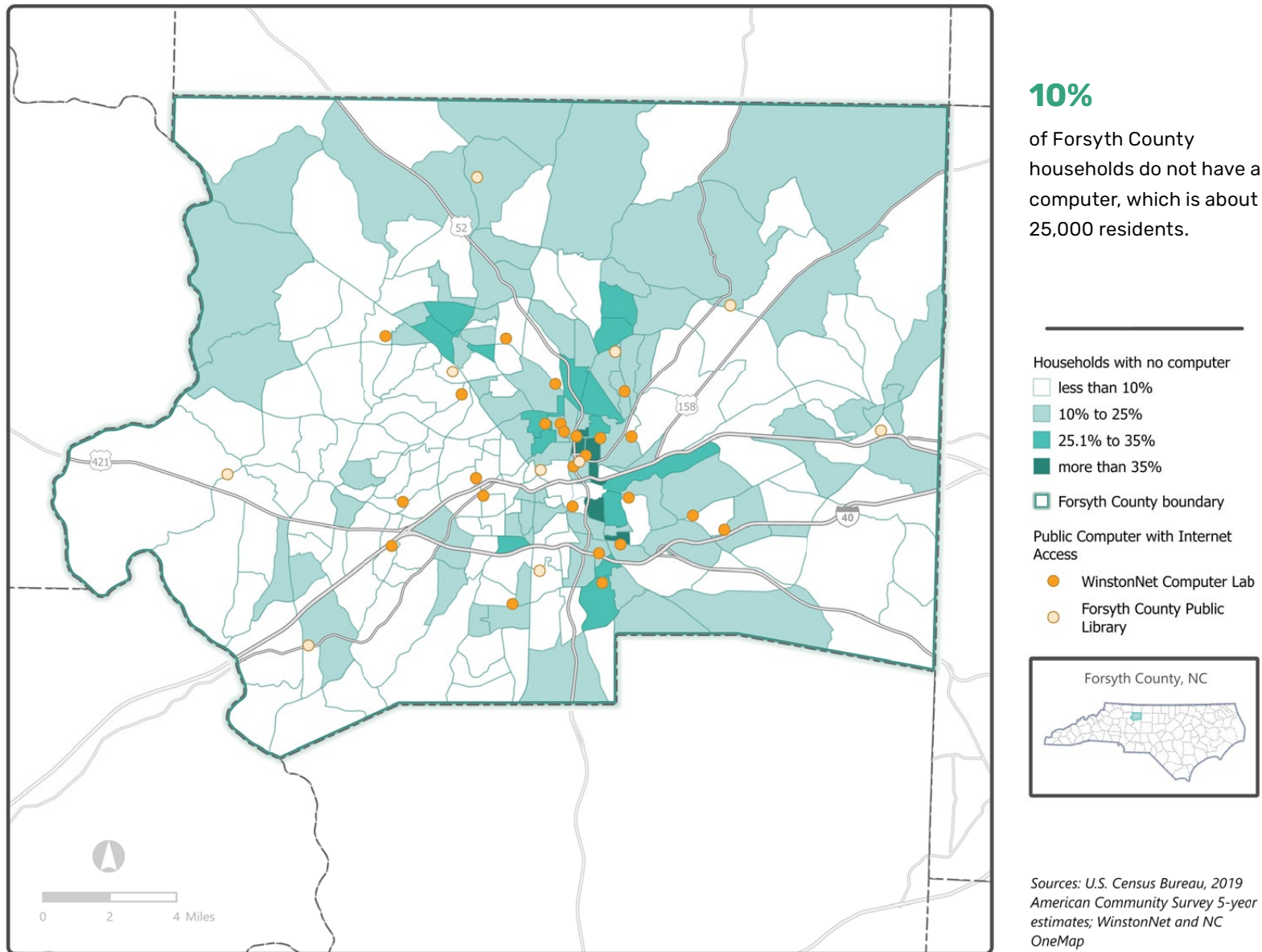
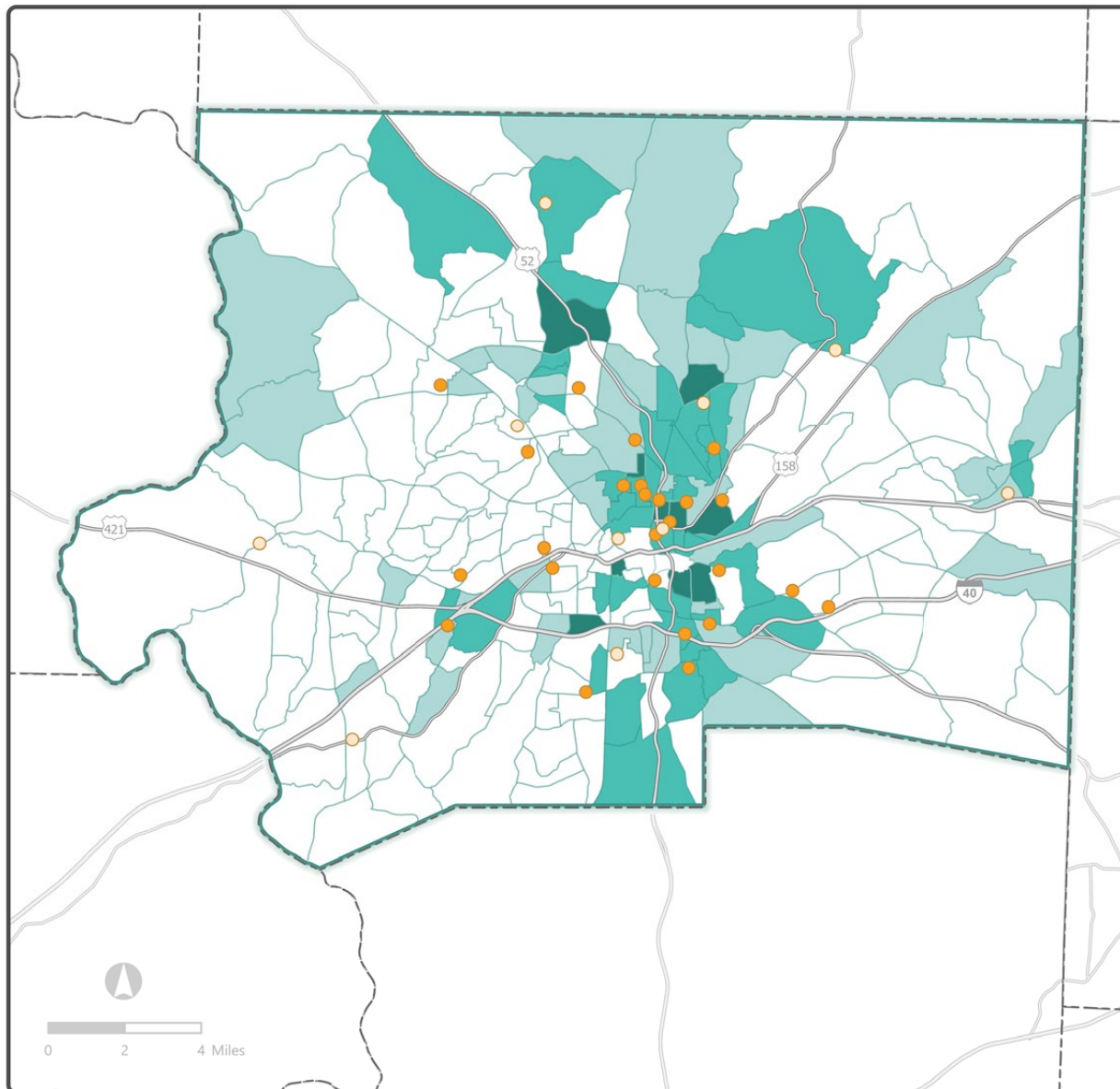


Figure 4.7 Population Without Computers or Internet



15%

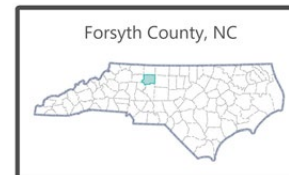
of the population in Forsyth County do not have a computer or have a computer without an Internet subscription

Population with no Internet subscription or no computer

- 15% or less
- 15.1% to 25%
- 25.1% to 50%
- More than 50%

Public Computer Lab with Internet Access

- WinstonNet Computer Lab
- Forsyth County Public Library



**Percent of the household population by block group.*

Sources: U.S. Census Bureau, 2019 American Community Survey 5-year estimates; WinstonNet; NC OneMap

Figure 4.8 HUD Assistance and No-Internet Areas

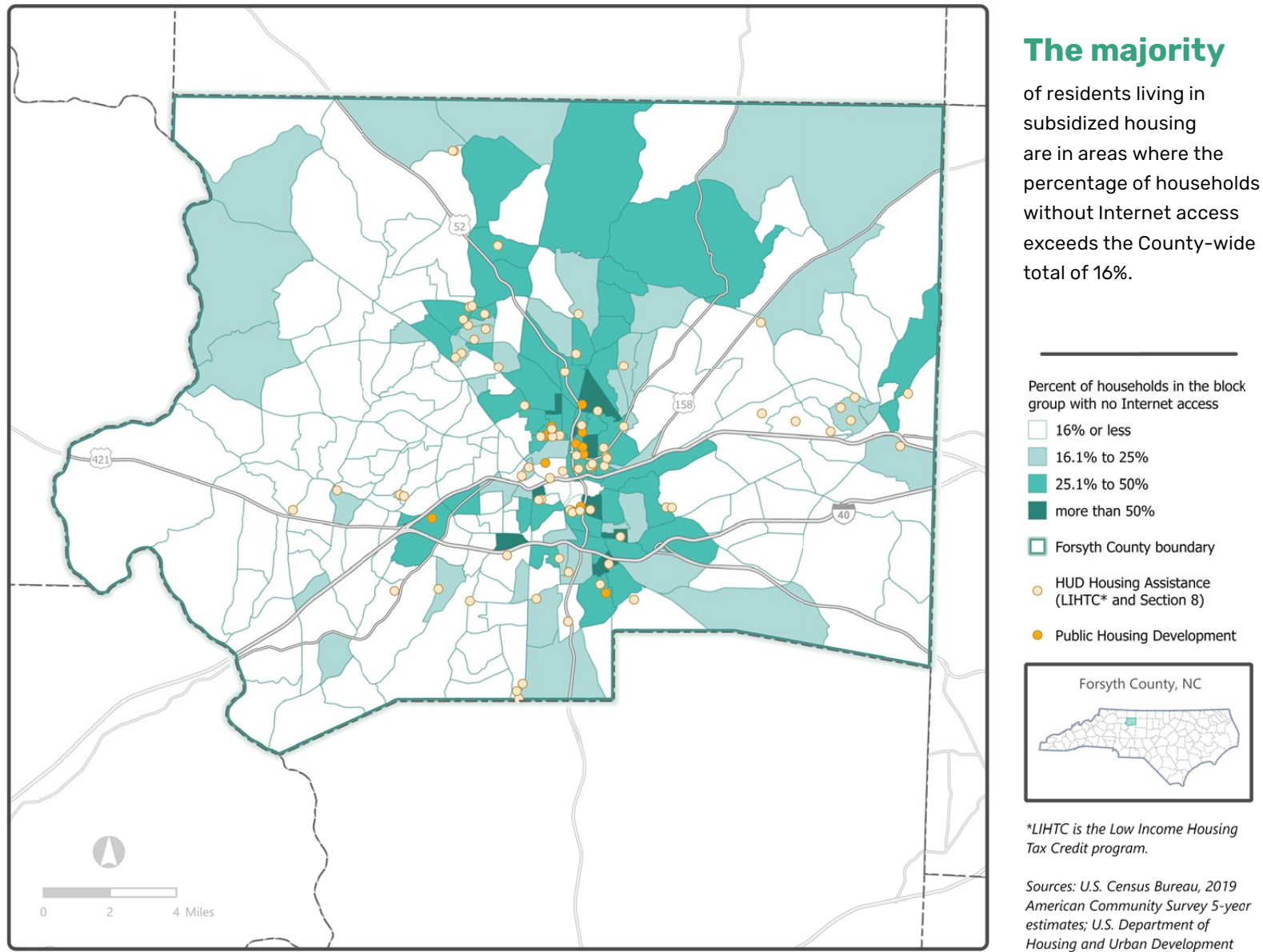


Figure 4.9 Public Internet Access in Forsyth County

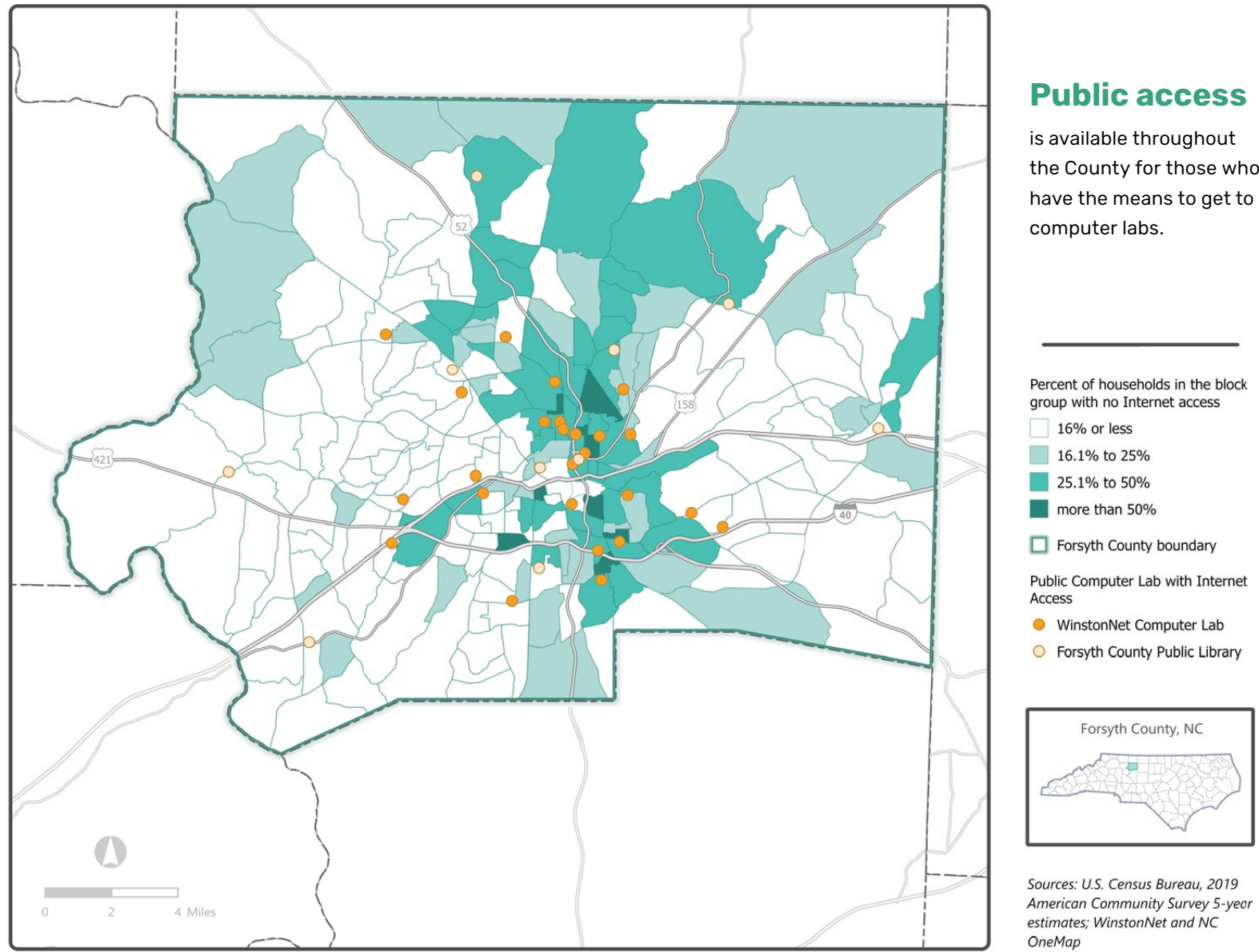
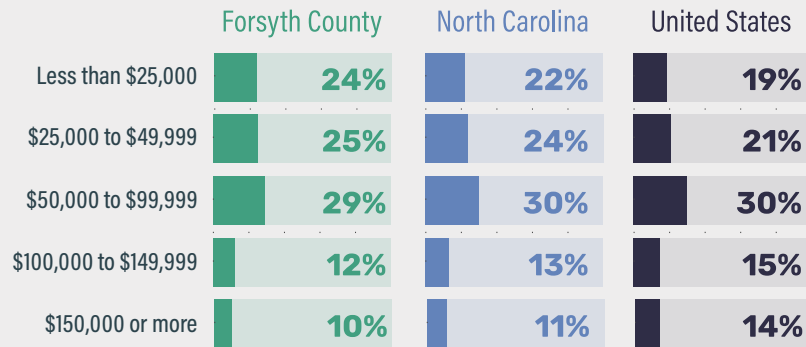
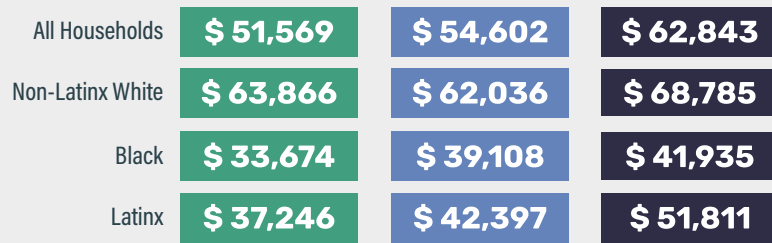


Figure 4.10 Household Incomes



Median Household Income by Race/Ethnicity of the Householder



Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates

Forsyth County by the Numbers

Figure 4.5 (p. 24) gives a snapshot of the state of Forsyth County today. These factors affect the level of digital equity present in the County and would be affected by total digital equity in the future.

The number of households without Internet access or an Internet-enabled device in Forsyth County is troubling enough; see **Figures 4.6 and 4.7** (p. 25–26) for more details. But, considering that the average household

includes 2.5 people, the digital equity problem comes into focus. The 23,570 households represent over 60,000 residents of Forsyth County who do not have Internet access. **Figure 4.8** (p. 27) shows public housing/ subsidized housing locations throughout the County that also are known not to have Internet. Finally, **Figure 4.9** shows the public computer labs located throughout the County.

As discussed earlier, Internet access and the economy are linked. Complete digital equity

can raise the overall standard of living in the County, including bringing the median household income up to that of the rest of the State and the country by supporting new job skills, job creation, and entrepreneurship opportunities. **Figure 4.10** details these income levels.

Expanding broadband access also makes educational opportunities more accessible. With greater digital inclusion County-wide, Forsyth County residents of all ages will be able to further their education and enjoy the quality-of-life improvements that come with educational attainment. **Figure 4.11** (p. 30) shows the educational attainment across the County.

Usage and Cost Summary

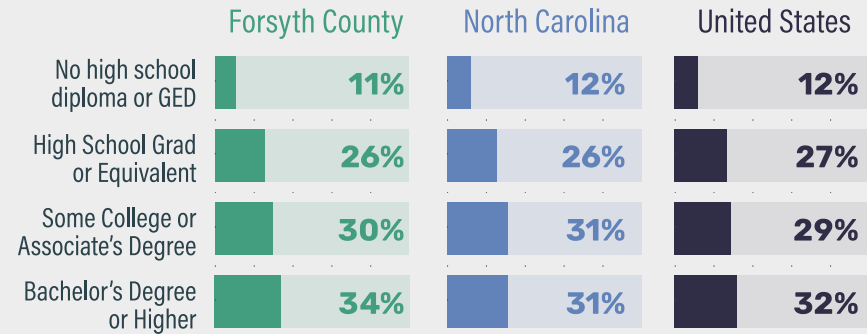
Along with the quantitative research conducted to build this *Plan*, the qualitative research added nuance to the picture of Forsyth County that should also be considered. As community leaders throughout Forsyth County were interviewed in the process of building this *Plan*, two key themes emerged:

- high-speed Internet access need not be free for residents to adopt it, and
- high-speed Internet access needs to be considered on par with basic utilities. This applies to the availability of other utilities and the affordability, regulation, and costs of high-speed Internet, similar to how other utilities are handled throughout the County.

Figure 4.11 Educational Attainment

Of the Forsyth County residents aged 25 years and over without a high school diploma, **21% do not have a computer** and another **18% have a computer without an Internet subscription.**

Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates



While residents clearly would not turn down free high-speed Internet access, they have expressed a willingness to pay something for access. Resident's willingness to pay for the Internet stems from their understanding of the intrinsic value of high-speed Internet access to their lives. Many people have access via a smartphone and cellular data plan or at a computer lab. Thus, residents have a sense of what they are missing; this bodes well for adoption once the infrastructure is in place to include more County residents in the digital world and should be seen as momentum for the digital equity effort.

The second theme that recurred throughout the community interviews was that high-speed Internet access must be treated as an essential utility to make it universal. If, for instance, Internet access could be bundled with other utilities and the price can be kept at or below essentials like heating, power, and water. In doing so, high-speed Internet access *could* be considered affordable.

Both themes came from discussions of affordability and were, no doubt, influenced by the COVID-19 pandemic. As residents sheltered in place, the ability to work from home became essential. Those with school-aged children immediately saw the need to connect to the digital world to keep pace with their children's education.

To gain a greater understanding of affordability, it is also important to compare pricing to the cost of high-speed Internet access in other locations. [BroadbandSearch.net](https://www.broadbandsearch.net), which publishes data from various sources, including the FCC, Pew Research Center, and the Brookings Institute, reports the price per Mbps of DSL (digital subscriber line), cable, and fiber-optic Internet access. In these comparisons, North Carolina ranks at the top of the DSL Internet price at \$2.40 per Mbps; the national average is \$1.53. North Carolina is at the national average cost for cable Internet at \$0.83 per Mbps and just two cents above the national average for fiber-

optic Internet at \$0.50 per Mbps.† **Figure 4.12** details what type of Internet is currently available in households in the County.

Considering the disparity between national median household income (\$62,843) and North Carolina's median household income (\$54,602), North Carolina's high-speed Internet access prices are likely to be a challenge for many people. Taken further into account that the Forsyth County median income is slightly lower than that of the State and around \$10,000 less than the national annual income, the price of high-speed Internet access shows itself to be a significant barrier that must be overcome to bring digital equity to the County. These numbers are detailed in **Figure 4.10** (p. 29).

† Cable Internet can provide speeds of up to 1,000 Mbps; Fiber-optic of up to 2,000 Mbps, though has limited availability across the U.S.; and DSL of up to 100 Mbps. highspeedinternet.com/resources/fiber-vs-cable

Figure 4.12 Broadband service in households as a percent of all households

Broadband (cable, fiber, DSL)

67%

Cellular data plan

57%

Satellite Internet service or other

5%

Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates

“Residents would access broadband if it was more affordable.”

—FCDE Interviewee

“Digital Inclusion is the civil right of the 20th century!”

—FCDE Interviewee



PART FIVE

Recommendations

Immediate Actions	35
Short-term Actions	44
Long-term Actions	48



Photo by Elizabeth Skinner

These recommendations have been curated from data, surveys, interviews, residents, and stakeholder feedback that the FCDE Committees and A/R360 have garnered during this *Plan* development. Some recommendations are “general,” meaning they apply to many communities in the County, while others are programmatic recommendations focused on institutional changes; others are more specific. For example, the creation of neighborhood mesh networks is confined to particular geographical areas with a limited range. Nonetheless, all recommendations were developed through data collection, analysis, and input from residents and organizations during the *Plan* development.

Recommendations are offered in the immediate, short-term, and long-term timelines to assist the Planning and Steering Committees determine the next steps in implementing digital equity in Forsyth County. This *Plan* is presented with the assertion that the most underserved communities—rural, low wealth, and communities of color—can and should receive interventions first.

IMMEDIATE ACTIONS

Create Oversight Structure to Direct Digital Equity Plan Implementation

Action: Create an Oversight Committee, with several Sub-Committees, to direct the funding and implementation of the *Plan*.

This *Plan* recommends creating an Oversight Committee, with multiple Sub-Committees, to develop funding opportunities and implement the *Digital Equity Plan* for Forsyth County. The Committee’s purpose is to continue monitoring and implementing digital equity, as the lack of digital equity affects the community’s health, economy, and education. Sub-Committees may include Legislative, Training, Broadband, Literacy, Outreach, Social Media, and Advocacy to design and create strategies moving forward. Current FCDE Planning and Steering Committee Members will be asked to serve on this Oversight Committee, as well as local elected officials; City or County staff members; business and nonprofit organizations; and other stakeholders. Additionally, this new Committee should be supported and staffed accordingly to address the wide range of recommendations and solutions required to achieve the mission and vision of this *Plan*.

Address Infrastructure, Digital Policy, and Technology Adoption

Action: FCDE Committee Members should meet with County and City elected leaders to discuss the *Plan*; have conversations about residents’ needs; and implement high-speed

broadband Internet for all residents across the County. Local government leaders should embrace the need for high-speed broadband Internet to advance all the County’s residents’ socio-economic status and create new economic opportunities, jobs, businesses, and wealth.

Digital equity requires local governments, educational institutions, social service providers, and nonprofits to adopt technology; promote and fund digital infrastructure; and make digital services an everyday part of their work culture.

Forsyth County government has embraced this position. The County was a leader in creating its enterprise software before the cloud, and off-the-shelf information technology (IT), human resources (HR), and financial software were available. The organization has a robust emergency communication backbone that links public safety, emergency response, medical response, and hospitals to improve first responder effectiveness.

County staff uses the term “broadband” frequently, understanding that the best way to serve underserved communities may be by utilizing 5G (generation) cell networks, satellite, or wi-fi mesh networks. This philosophy moves the County beyond costly hardwiring and fiber laying in rural or hard-to-reach areas.

This *Plan* encourages the Committees and stakeholders to continue to have open



communications with City and County governments about broadband, infrastructure, and the needs of the residents.

Promoting Public-Private Partnerships

Action: Bring ISPs; public and private organizations; and government partners to the table to discuss creative options and establish the best approach to bring high-speed Internet access to all County residents.

The County cannot achieve digital equity without a strong partnership between the public and private sectors—primarily ISP’s—to address infrastructure needs in urban and rural settings.

ISP’s have historically been reluctant to upgrade existing lines in rural areas because they typically cannot yield a profit in these locations. The low-density development, low subscriber rates, and long distances between customers mean higher upfront installation costs.

For example, some states have used more traditional public-private partnership approaches. Kentucky is installing 3,000 miles of fiber-optic lines through a public-private partnership. The network will link every County in the State to faster Internet connections, although it will be up to local Internet providers to connect end-users to the new “middle mile” network. Macquarie, an Australian bank, will build and operate the network for 30

years. It will recoup its costs by selling access to universities and the State government throughout the deal, but Kentucky will own the network when the agreement is over.²³

Another example, in Minnesota, local governments in two Counties are using an old model to deliver new technology. Seventeen townships and ten cities have formed a cooperative, RS Fiber®, to build fiber and wireless Internet connections over a 700-square-mile area, much like rural areas used cooperatives to bring electricity to farms during the Great Depression. RS Fiber got its initial funding when its ten cities issued bonds for half the cost of the first phase of its project. The cooperative built wireless towers to cover farms in the area while constructing a fiber network in the towns. With the money the cooperative generates from providing service in town, it will start building fiber for the farms. A local Internet provider runs the day-to-day services.²⁴

Closer to home, the Cities of Fayetteville and Greenville, North Carolina, joined with MetroNet to construct a fiber-optic network providing high-speed Internet, television, and phone in their cities. MetroNet invested \$110 million into the project.²⁵

This *Plan* calls for private providers, government agencies, nonprofits, and social service providers to discuss the issues facing residents in access, affordability, and connectivity consistency. After identifying the

gaps of coverage and affordability, the public-private partnerships can utilize both public and private funding to close the gap. For example, nonprofits can keep Internet subscriptions affordable if ISPs wire apartment complexes and sections of neighborhoods with no “end mile” connections. ISPs can also be contracted to provide lower-cost services over publicly funded infrastructure. To establish the best approach for the County, all entities must come to the table to begin a conversation.

Performance Measurements

Action: Establish appropriate performance measurements to track the implementation of the *Plan*. These should be measurable and obtainable goals tracked via an ongoing collection of quantitative and qualitative data.

Before completing this *Plan*, residents’ needs in the County’s urban and rural communities were tracked and analyzed based on data collected from personal interviews and available public datasets. In addition to direct input from residents, the data collected included demographics, economic conditions, and Internet service availability and affordability. The metrics provided in this *Plan* can serve as a baseline for establishing measurable and obtainable goals. Once established, these will become the performance metrics for monitoring the County’s progress towards obtaining digital equity. In addition, these performance measures will serve to highlight where





resources should be focused, and successes celebrated. For this reason, these metrics must be regularly updated, analyzed, and visualized.

Outreach and Communications Strategies

Action: Develop an outreach and communication strategy to reach local, regional, State, and federal governments on the *Plan* recommendations and implementation.

Part of completing this *Plan* and achieving digital equity is the continuous outreach to the local, regional, State, and federal government on implementation and resources needed. The *Plan* recommends communicating the successes of its performance, and the

programs to media and stakeholders, which will help keep communities and partners engaged throughout the implementation phase of digital inclusion in the County. The development of a communications strategy to address print, TV, radio, social media, and local media; and outreach materials for nonprofit and community leaders on the *Plan* outcomes will be a vital component of this work.

Advocacy and Education

Action: Create an advocacy platform for digital equity and literacy.

Keeping race at the center of the conversation is critical, especially for lawmakers to understand the impacts their decisions will make on communities. While focusing

on the most underserved communities will produce positive results for all communities, the reverse is not true. If we fail to center the needs of low-income communities and communities of color, then we risk creating solutions that do not adequately address the barriers they face.

This *Plan* highlights the need to create an advocacy platform to ensure resources from the State and federal government are realized to support County-wide efforts, and that policymakers are aware of programs and issues. Supporters of this effort must advocate for:

- easy and equitable access to the Internet from providers by minimizing provider “opt-out” options to provide affordable Internet;
- making requirements for affordable Internet less stringent;
- not imposing extra fees on current subscribers to pay for affordable access; and
- increasing awareness of affordable Internet options. For example, the new Emergency Broadband Program, released through the FCC, a household qualifies for support to help pay for broadband Internet, if one person in their household meets any of these criteria:

- “qualifies for the existing Lifeline[‡] program;²⁶

[‡] The Lifeline program lowers the cost of phone and Internet by \$9.25 for eligible customers. Customers must qualify through the Federal Emergency Broadband Benefit Program or a local company.

receives benefits under a free or reduced-price school lunch program or school breakfast program;

lost their job or experienced a substantial loss of income during the pandemic (since February 29, 2020), and the household had a total 2020 income at or below \$99,000 for single filers or \$198,000 for joint filers;

is a student receiving a Pell grant; or

meets the eligibility criteria for your participating Internet provider's existing low-income or COVID-19 program."²⁷

Not all ISPs are required to participate in these programs, but many have signed on. Currently, about 825 providers nationwide, with about 50 in North Carolina, have joined.²⁸

Government/Nonprofit Support

Action: Information sharing amongst local, regional, State, philanthropic, and federal funding sources is imperative to ensure that funding opportunities can be reviewed and applied for, if applicable. Additionally, information for residents about government, nonprofit, and corporate programs to reduce their Internet costs located in one place would be a helpful resource. A single point of contact and/or website resource would make this process easier for everyone.

Millions of dollars in local, regional, State, philanthropic, and federal funding are available to address digital inclusion efforts, including

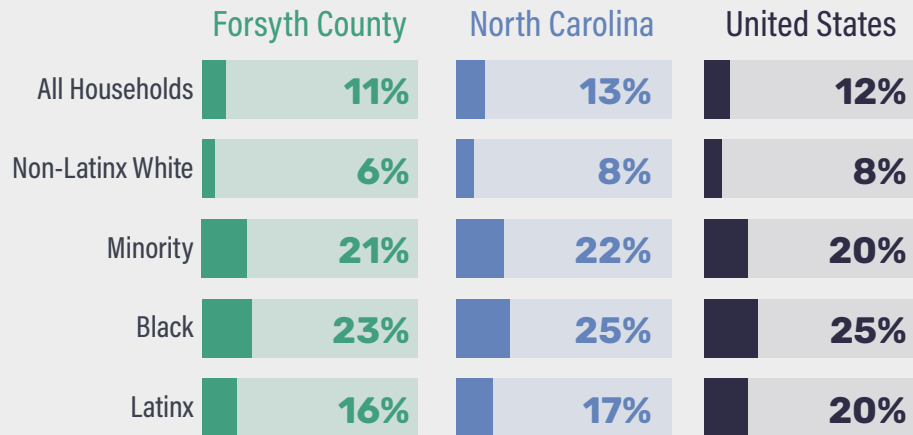
fiber deployment, training, affordability, and access. For example, Forsyth County is receiving \$74.1 million, and the City of Winston-Salem is receiving \$55.1 million from the American Rescue Plan, some of which will be spent on broadband. In addition, the North Carolina House of Representatives passed the GREAT Broadband Expansion Act, co-sponsored by Congressman Donny Lambeth of Forsyth County. The Act, in part, gives funding for rural broadband across all Counties in North Carolina.²⁹ These are just a few of the many funding opportunities that are or will become available in the coming months.

Through partnerships like WinstonNet, the Piedmont Triad Regional Council (PTRC),

consulting teams, and others, these organizations can ensure all local governments and nonprofits are aware of State and federal funding, and program opportunities to prepare to receive financing through grant and other writing support, and can deploy resources effectively for broadband technology, infrastructure, and support. For example, Forsyth County is located within the Appalachian Regional Commission (ARC) jurisdiction. ARC affords its member Counties and States access to millions of dollars in Federal funding to address economic development, infrastructure, and workforce development.³⁰ Forsyth County is also eligible for Economic Development Agency funding through its Economic Development District



Figure 5.1 Receipt of SNAP benefits is higher among minority households.



Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates

located within the PTRC.³¹ The *Plan* calls for consistent dissemination of information on funding opportunities; grant writing support for those local governments and nonprofits that require it; and effective project prioritization for competitive grants and programs.

Ensuring that all residents are aware of government, nonprofit, and corporate programs that address digital equity and inclusion is essential. For example, the Census Bureau estimates about 16,000 households in Forsyth County receive *Supplemental Nutrition Assistance Program (SNAP)* benefits, which is among the criteria that makes them eligible to receive financial assistance for Internet subscriptions.³² Residents should

be encouraged to fully use their government benefits in conjunction with any local programs laid out in this *Plan*. **Figure 5.1** details households receiving *SNAP* benefits by the race/ethnicity of the householder.

Cultural and Community Awareness, and Residential Stories

Action: Continue to collect stories and information from residents across the County that support the need for high-speed broadband Internet, specifically from Latinx, Black, and rural community members.

To achieve digital equity, everyone must understand the cultural and language differences communities have and seek

culturally responsive approaches to engaging diverse populations. In addition, *Plan* supporters should increase awareness about the prevalence of the digital divide and the negative implications that accompany it in Forsyth County.

There needs to be an awareness of the implied and explicit bias communities of color, women, individuals with disabilities, older adults, and others feel when procuring the Internet, broadband, or other services. *Plan* supporters and County leaders must work together to dismantle biases that equate location, color, race, gender, age, poverty, unwillingness, or inability to purchase services. One way to address these biases is to ensure that representatives from rural communities and communities of color are engaged in every stage of the planning process; their perspectives and insights will be vital in developing an implementation process that addresses the barriers their communities face.

Stakeholders should work to capture changes through story collections and conversations with residents in underserved communities to understand how digital access has improved their lives and address any barriers that remain. This feedback from residents will assist in establishing a deeper understanding of the need for the implementation phase of broadband Internet.

By increasing access to the digital economy and services to all residents regardless of

gender, race, location, or age, the County will institutionalize a culture of dignity. They will do so by freeing residents from working exponentially harder to achieve what have become “common” processes, such as bill paying, online banking, accessing government services, and shopping.

Enabling Digital Equity

Action: This action is trifold and should be prioritized while broadband Internet is established across the County: 1) ensure access to an Internet-enabled device in each household (preferably desktop computer or tablet); 2) create a toolkit to identify resources to address the lack of Internet-enabled devices, training, and support, allowing residents to find the support that they need to be successful, and allow nonprofit and social services agencies to point residents to available resources to ensure residents are successfully using the Internet; and 3) continually evaluate agency and organization websites, media, and communications to ensure that they are accessible to all users and Internet-enabled devices.

Once Internet access has been addressed, there are three key areas to focus on:

INTERNET-ENABLED DEVICE IMPLEMENTATION

Having access to Internet-enabled devices is paramount to digital equity and inclusion. Therefore, this *Plan* recommends enhancing current device





Photo by Elizabeth Skinner

programs to get an Internet-enabled device in the hands of all County residents.

Create or enhance programs that will provide Internet-enabled devices to users/ households in need by utilizing low-cost laptops or refurbished desktop computers. Device programs may join a mentoring support program, so end-users get a full range of support. It is important to note that this need not be a wholly created program. Working with an established organization like Per Scholas, [PerScholas.org](https://www.per-scholas.org), can get a program up and running quickly.

RESOURCE COLLABORATION

One issue that continually arose in resident interviews was the lack of a comprehensive digital resource information system. To this end, this *Plan* recommends creating a toolkit and information network for agencies and nonprofits to identify current and needed resources to address access to Internet-enabled devices, training, and support.

For example, pointing social service agencies, not equipped to train residents on the use of computers and the Internet, to the Forsyth County Public Library's Computer Training Bridge which offers educational training programs (in-person and virtually), can ease the "handoff" of residents to agencies that use this educational service at no cost.

Concurrently, a resource guide must be available to all residents to point them to

available resources. The resource toolkit should be placed on any Internet site and produced in hard copy; distributed at housing fairs; in libraries and community centers, so it is easily accessible to all County residents.

CONTENT MANAGEMENT

Constant evaluation of public, nonprofit, and social service agency web, media, and communications content is critical to ensuring accessibility to all users and optimization for Internet-enabled devices of all sizes and types.

Recognize the Inequities that Exist within Internet Access

Action: Committees should work with local organizations and governments to recognize, acknowledge, and bridge the inequities with Internet access. Specifically, socio-economically disadvantaged residents, communities of color, and those who only own a smartphone cannot fully use the Internet as residents who own an Internet-enabled laptop or desktop computer.

Because households and individuals may increasingly have access to the Internet, *the Internet is not a panacea to fixing or alleviating institutionalized poverty, racial injustice, and systematic inequality.*

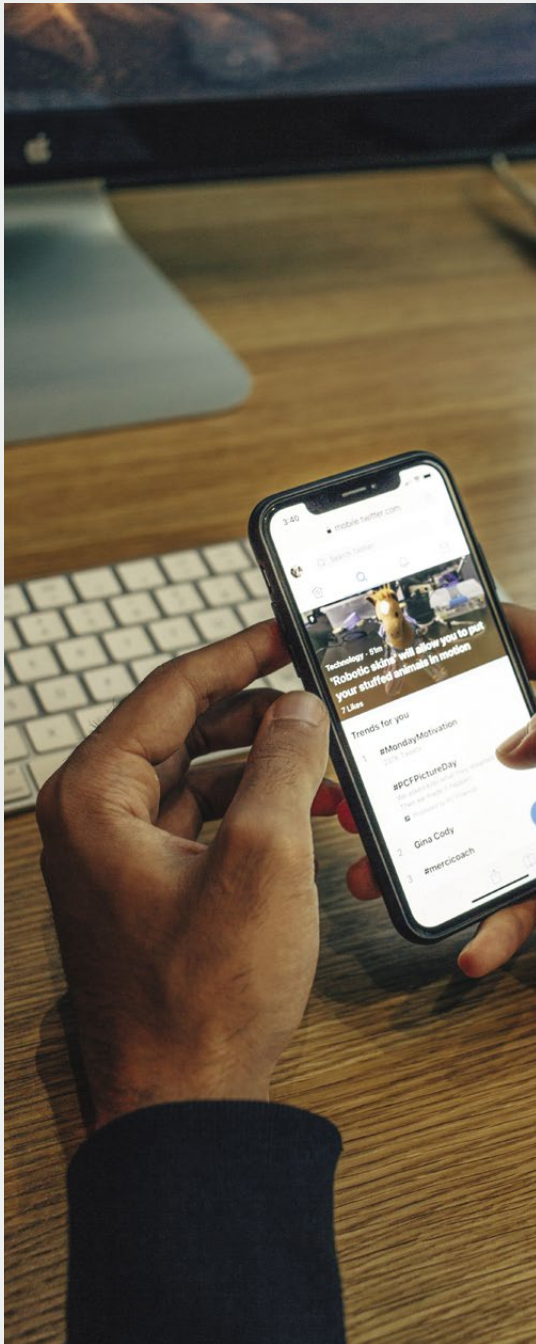
Activist Larry Ortega challenges proponents of digital equity to look closely at the data. According to Ortega, large swaths of the population—predominantly poor and minority—rely solely on smartphones for Internet

access. He notes, this "has created a two-tiered system where the rich have access to expensive, high-speed broadband Internet at home and everyone else is relegated to slower connections on mobile devices that seriously limit users' ability to contribute to the digital conversation."³³

As the Media Action Grassroots Network put it, "a cell phone or mobile device is not a substitute for a laptop or desktop computer. Many everyday Internet needs such as applying for a job, conducting research, registering for classes, or accessing government or social services are difficult or impossible on a mobile device."³⁴

The Pew Internet and American Life Project, a recent study completed by the Pew Research Center, nearly one-third of their respondents used their cell phones as their primary means of accessing the Internet. These individuals consisted "primarily of young adults, non-white, the less educated, and the less affluent."³⁵

However, the FCC reports that 19 million Americans live in communities that cable companies or broadband providers cannot reach.³⁶ Therefore, it is not just those who live in a lower socio-economic status forced to rely on wireless Internet.



SHORT-TERM ACTIONS

Enabling Smart, Accessible, User-Friendly Community Centers

Action: Ensure that community centers, libraries, and other public places where residents can access the Internet are accessible and have resources to access the Internet.

A recurring theme in resident interviews and surveys was that community centers are often not as accessible as leaders assume. Residents expressed frustration with physical access to facilities, the times facilities are open, and their services. Therefore, the *Plan* calls for ensuring community centers, libraries, and other public places where individuals can access the Internet are physically accessible (within walking distances and with access to convenient transit) and have the resources residents need to access the Internet. Specifically for Internet access, these locations should be secure and safe. They should include multiple Internet-enabled devices, training, and tech support, as well as spaces for residents to utilize these devices in private. The constituents these centers are designed to serve must be actively engaged in the process to achieve this.

Supporting Digital Literacy/Fluency

Action: Develop resources and materials to aid in mentorship and training via Digital Navigators and Digital Experts located throughout the County.

With access and Internet-enabled devices in hand, many County residents may need help becoming digitally literate/fluent. One key point to keep in mind when considering ways to deliver this help is that the word “literacy” may be misleading. The term uses the metaphor of language, as in, being able to read and write in technology. However, when we refer to digital literacy in this *Plan*, we define it as “the ability to use digital tools to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.”³⁷ That definition is more akin to fluency than literacy. After all, if someone is fluent in a language, they can use it to find, evaluate, create, and communicate information.

This distinction may seem like splitting hairs, but it is an important concept to note when looking at communities like Forsyth County. On several occasions in the research and preparation of this *Plan*, community leaders referred to the difficulties of “training” or “teaching” residents to use the Internet. As one person put it, digital literacy training “has a branding problem.” Nobody wants to feel like they are taking a remedial class, and “the worst thing you can do is tell a grown person what to do.” So, in approaching digital literacy, how do we help and support individuals while giving them the dignity and respect they deserve? Again, the literacy/fluency distinction is essential.

All the recommendations below for assisting residents in using Internet technology to

improve their lives should be considered from the perspective of users acquiring skills to avoid the stigma of “teaching people the Internet.” Mentoring and training digital skills are essential to help residents keep current on advancing technology; acquiring basic computer operations and technical skills; and effectively utilizing digital content. This *Plan* recommends enhancing current mentoring efforts and piloting new ones.

CREATING REFERENCE GUIDES

Accordingly, a reference guide is necessary for training and support. This *Plan* recommends creating a standardized training/support guide for Digital Navigators, Digital Experts, and others to assist. It is important to also train individuals in the basics of cybersecurity to ensure that as they become more connected, they can trust the Internet.

Forsyth County is home to superb technical training schools, community colleges, and universities that can be assets in helping individuals increase their digital literacy. These partners should be engaged early and often to devise community-driven solutions to improve digital literacy County-wide, in addition to would-be Navigators and other stakeholders to ensure its relevancy.

CREATING QUICK USER’S GUIDES

The *Plan* calls for developing a simple at-home user’s guide for residents that covers common wi-fi, broadband, and technical issues. For example, the document could be a one-page

flyer or small booklet with frequently asked questions (FAQ) and answers related to Internet-enabled devices; setting up a router; common errors and corrections; and other basic support answers. The Guide should also address common cybersecurity issues, such as passwords, spam, and other items a new or novice user of the Internet will need to know.

MENTORING/TRAINING – THE DIGITAL NAVIGATOR MODEL

According to the National Digital Inclusion Alliance, Digital Navigators are individuals who address the whole digital inclusion process – home connectivity, Internet-enabled devices, and digital skills – with community members through repeated interactions.

Navigators can be volunteers or cross-trained staff who already work in social service

agencies, libraries, health, and more who offer remote and socially distant in-person guidance. Often at trusted community-based organizations, Digital Navigators are familiar with resources that relate to digital equity, and they help residents learn to use critical online services that provide guidance with food support, rent, education, employment, childcare, government benefits, and more. They can recommend resources and check back with the client.

This mentor/trainer model begins with asset mapping, develops processes customized to each site, and results in local communities with more robust digital inclusion resources. A trained Digital Navigator will assess a community member’s need and competently guide them towards appropriate resources for their skill level and lifestyle. A Digital Navigator



can work with a community member in-person, or reliably point them to online resources relevant to their needs, such as online classes or self-guided tutorials. This could present viable employment opportunities for tech-savvy youth who live in the communities where the Navigators will primarily serve.

Forsyth County has utilized Digital Navigators. This *Plan* recommends a continued, but up-funded network to provide outreach, direct training, and technical support to households and individuals in one-on-one or community settings.

Another possible approach is coaching. A team of coaches can guide a cohort of residents to digital literacy through direct mentoring. Coaching can include basic computer skills, content access, and word processing, with skillsets getting increasingly complex the longer the students are coached. A cohort of students can consist of job seekers, older adults, or students seeking computer literacy skills.

ENABLING AND SUPPORTING NEIGHBORHOOD DIGITAL EXPERTS

The *Plan* calls for bolstering the excellent and deep informal and community networks that currently provide “one-off,” casual, and infrequent technical support to neighbors, congregants, and others. Many individuals who have some digital technical skills become a neighborhood, church/synagogue/mosque, school, community center, or apartment expert. Providing resource guides, access to

specialized training, and embedding other trained experts with these neighborhood resource experts can help extend support to more residents and create more trust in mentoring and training systems. For example, bolstering training for older adults in senior centers and utilizing local high school students in their neighborhoods can become an excellent way to continue low-cost or free mentoring and support to communities.

Utilize Digital Equity to Promote Work and Employment for New “Remote” Economy

Action: FCDE Committee to convene agencies and organizations that bring job seekers together, and develop a guide of best practices to promote work and employment to determine the best way to move the County towards a new “remote” economy.

The pinnacle of fully utilizing the high-speed broadband Internet, digital literacy training, and other tools is the ability to gain employment that requires Internet access, but offers the freedom to work remotely. Residents who do not have Internet access, Internet-enabled devices, and digital literacy are prohibited from joining the growing and profitable remote work economy. This *Plan* calls for Workforce Investment Boards (WIBs), Job Training Centers (JTCs), and other job skill or job training providers to recognize the importance of remote work and the freedom it can provide to families in need of alternative work situations,

those without reliable transportation, or those in need of elder or childcare.

According to Emily Courtney of Flexjobs, “[t]he massive transition to remote work during the pandemic was a necessity for office-based companies that wanted to maintain operations. But [most] companies want to continue with some form of remote work post-pandemic. ...A Gartner survey of company leaders found that 80% plan to allow employees to work remotely at least part of the time after the pandemic, and 47% will allow employees to work from home full-time. In a PricewaterhouseCooper (PwC) survey of 669 CEOs, 78% agree that remote collaboration is here to stay for the long-term. Remote work is good for business, the environment, job satisfaction, mental health, and productivity.”³⁸

This *Plan* recommends convening WIBs, JTCs, a diverse group of local business owners, and stakeholders to discuss how the organizations can better assist in moving the County towards this new “remote” economy.

Internally Create Digital DEI Plans and Processes for Organizations

Action: The FCDE Planning Committee will develop a sample DEI plan and processes for nonprofit and community organizations, to allow these agencies to update and adopt their own DEI plans and procedures.

While this *Plan* discusses a critical aspect of DEI for the County’s communities and

neighborhoods, there is a need to also focus on organizational capacity, planning, and processes for internal DEI practices. This *Plan* recommends that every local government, nonprofit, service delivery agency, and educational institution in Forsyth County adopt DEI plans and processes that discuss how they communicate internally; provide information; incorporate DEI into grant-making and grant-seeking; in internal decision-making; and in hiring and retention of employees.

The FCDE Planning Committee will create a set of standards; mentor and teach organizational counterparts; and periodically audit best practices so that the County can move forward on digital DEI together.

Asset Survey

Action: FCDE Planning Committee should develop a community survey to determine what community assets are available to bridge the digital equity divide.

Very few community assets, such as public computer labs, are published in a location that is easily accessible to all residents. The exceptions are the WinstonNet technology labs and Forsyth County Public Libraries, all located on the City of Winston-Salem bus lines. However, other organizations have the Internet, Internet-enabled devices, and Digital Navigators that can assist residents. This information would be helpful to publish both in a resource guide and on a website.

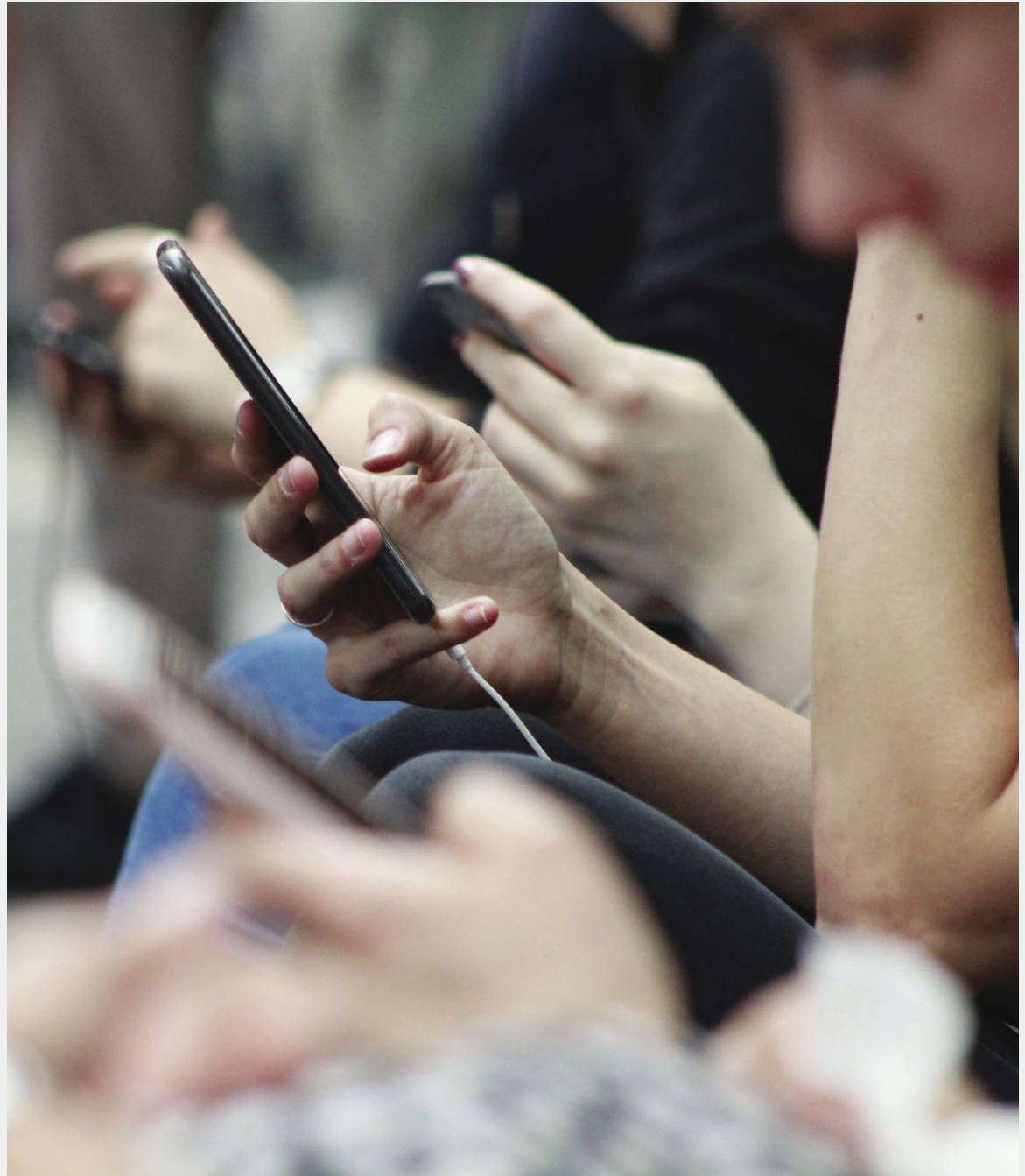




Photo by Robert Donovan

LONG-TERM ACTIONS

Identify and Support the “Missing Middle”

Action: Identify “missing middle” residents and work with nonprofit and community organizations to provide resources for these individuals to pull themselves out of poverty and close the poverty gap in Forsyth County.

A growing number of County residents, 22% of the population as detailed in **Figure 5.2**, are in the “missing middle,” which refers primarily to single women without children who do not earn enough money to escape poverty, but earn too much to qualify for many State and federal benefits, including low-cost Internet subscriptions.³⁹ These women are wage earners entering the workforce, workforce transition, or facing unemployment or dislocation for various reasons. They may face the benefits cliff, which is “when they receive public benefits from the government, earn a raise, and then discover that they make too much money to receive the benefits. But they are not making enough money to sustain themselves and their household.”⁴⁰

The *Plan* calls for identifying this population of residents and working with service organizations and nonprofits to understand their needs better and if any supplemental resources can be provided. At the same time, they are transitioning to higher-paying jobs, completing school or workforce training. For example, in some resident interview responses, having a voucher to offset higher Internet

subscription costs and/or a consistent, safe location to work (and use the Internet) may be all they need to close their poverty gap.

Provide Wraparound Services with Digital Literacy Training

Action: Develop a wraparound services strategy for the County’s disadvantaged residents, so those individuals can fully utilize digital literacy training.

Digital education may be challenging to access for parents, older adults, people without reliable transportation, people with disabilities, families, caregivers, and other residents that do not have the Internet to help manage their daily lives. Setting aside time from caring for family members or finding resources like housing and transportation support are priorities that take precedence and keep disadvantaged residents from fully utilizing the Internet and digital services. In addition, consideration of support when planning for or offering digital literacy classes; hand-offs to or from other support organizations; and ensuring that the needs of children are considered are essential steps to digital literacy training.

For example, in Butler County, PA, some families, youth, or young adults are looking for help, but they struggle with finding and using the different supports available to them. Wraparound services assist youth and families with complex needs and develop a team of support and organize the needed

help. Wraparound service is a planning process that follows a series of steps so that individuals or families realize their hopes for a better life. With the help of a Wraparound Facilitator, people who care about their long-term success utilize the individual’s or family’s unique strengths (and team and community strengths) to problem solve and plan wraparound targeted help to address the greatest needs of the family.

In Forsyth County, creating hand-offs to appropriate service agencies as consumers’ and clients’ needs become apparent can help long-term disadvantaged individuals find meaningful employment by assisting with eldercare or childcare, transportation, and substance abuse support. Therefore, this *Plan* recommends nonprofit and local governments come together to develop a wraparound

services strategy for the community’s disadvantaged residents.

Building Digital Infrastructure

Action: Work with community technology centers to develop a network to bring high-speed Internet access to communities not currently served by ISPs.

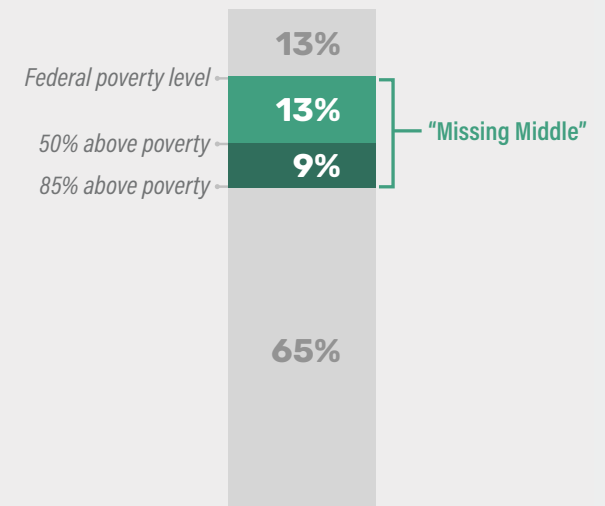
According to BroadbandNow, Forsyth County has 100% broadband coverage across the County.⁴¹ This number represents 25 Mbps coverage, but does not confirm that every building or home is connected. Twenty-five Mbps does not allow for video streaming or stable conference call connections (Zoom®, for example), making working from home or virtual learning difficult. As discussed in this *Plan*, high-speed Internet is 100 Mbps or above.

Figure 5.2
The Missing Middle

22% of female householders without children have income only slightly above the poverty level used for determining program eligibility.

Data represent the ratio of Income to poverty level for unmarried female householders with no children under 18 in Forsyth County.

Source: U.S. Census Bureau, 2019 American Community Survey 5-year estimates.





This *Plan* aims to minimize the digital divide by providing high-speed Internet service to all residents at low or no cost. How can this be accomplished? The infrastructure must be put in place in critical areas that lack high-speed Internet access options entirely; this can be accomplished through a Citywide comprehensive broadband solution for Winston-Salem. Targeting low-income and communities of color, where infrastructure typically is less robust than more affluent communities, would be an important first step. A comprehensive broadband solution, customized for its unique needs, may be the most viable way to ensure access in rural areas.

One of the most promising ways to bring high-speed Internet access to the County's urban areas is through a system of neighborhood

mesh networks. A mesh network is a localized system that provides access to the Internet utilizing nodes (or bridges, switches, or other similar devices) that connect to one another and to a source of connectivity (such as a router) outside the network to spread Internet access across a given area. They act in concert to provide Internet coverage across an area where the nodes are installed. Each node serves as a router for every other node and works dynamically to maintain and propagate connectivity. These types of networks can play a crucial role in offering Internet coverage to areas where ISPs have built out, but there remains limited or no Internet capacity.⁴²

Factors such as the cost of fiber installation weighed against a prospective customer base can sometimes limit the way communities have access to broadband service offered by major carriers. Installing a mesh network to augment or extend coverage to underserved areas can be a low-cost method to foster affordable Internet access. Depending on the structures in a neighborhood, nodes can be installed on a mix of government and commercial buildings and utility poles. However, mesh networks are generally seen to deliver Internet service to relatively smaller, more localized vicinities and generally not for service across the entirety of a jurisdiction. Thus, the augmenting and extending nature of these networks are the mainstays of their use.

The end effect of utilizing a mesh network is that underserved areas can become

moderately- to highly-served areas without the need to build and install significant levels of communication technology infrastructure. And, since these network nodes can be based in community centers, churches, etc., these organizations can keep the costs down or provide free Internet access in a local radius.

Taking full advantage of the breadth of the WinstonNet, Forsyth County Public Libraries, and community technology centers by turning their computer lab locations into mesh network nodes could significantly improve high-speed Internet access to urban, suburban, and rural areas of the County. In **Figure 4.9** (p. 28), the dots indicate these computer lab locations.

In areas not covered by these technology centers, partnering with public institutions, such as schools and libraries, could fill gaps. By nature, one institution with locations dispersed to match up with residents is the U.S. Postal Service.

Recently, Congressional leaders have been exploring ways to make the best use of U.S. Postal Service offices, with proposals to turn post offices into more general use locations for activities like banking. Since post offices are generally fixtures of their communities, they represent good locations for network nodes. Furthermore, deploying and maintaining mesh networks through post offices would be easier as they are already a part of a networked system, the U.S. Postal Service itself.



PART SIX

Appendices

Appendix A: History of the Committees	54
Appendix B: Committees Organizational Information	55
Appendix C: Computer Training Bridge Program Overview	62
Appendix D: Acronyms	63
Appendix E: Citations	64

APPENDIX A: HISTORY OF THE FCDE PLANNING AND STEERING COMMITTEES

The first meeting of the FCDE Planning Committee (smaller Committee) was in April/May 2020. The FCDE Steering Committee was formed in September 2020 (larger Committee).

Early FCDE Committee Discussions

Forsyth Futures, a nonprofit 501(c)(3) organization that studies data to inform community decision in Forsyth County, approached The Winston-Salem Foundation (The WSF), a nonprofit community foundation that supports charitable programs in the greater Forsyth County Region, to see if there was value in beginning conversations around improving Internet connectivity in the County. In addition, the two organizations reached out to other organizations to gauge interest in having additional dialogues; those organizations included WinstonNet, the City of Winston-Salem, and Wake Forest University.

By late April 2020, Neighbors for Better Neighborhoods was included on the Committee to stay connected to the community/grassroots voice. Additionally, Ms. Margaret Robinson, a community advocate, was recommended to be added to the Committee to assist in reaching residents throughout the County. Early Committee Members had discussions about who else should be engaged in the work; thus, the Steering Committee continued to grow.

Committee Members are focused on an asset-based approach when recruiting new Committee Members, recognizing that community members are experts and know best what they need. Everyone has valuable gifts, skills, and talents to contribute to the process. Therefore, Committee Members who can bring new Members to the process are valuable assets.

Funding for the Committees' Work

Funding the Committee's work grew to include the Institute for Emerging Issues. This nonprofit organization works to "identify new ways to educate and engage [North Carolinians] and help them solve problems and recognize the importance and necessity of their participation" in the public engagement arena.⁴³ The Committee applied for and received the BAND-NC grant in June 2020. The Committee Members attended State workshops and webinars connected to digital equity planning in late summer/early fall 2020. At the close of these events, the Committee Members decided to create a digital equity plan for the County.

Work Through 2020

The Committee requested 12-month commitments from Committee Members in September 2020. At the time, the Committee noted that creating digital inclusivity in Forsyth County would continue in some way. The Planning Committee, a smaller group of Members who could dedicate more time to the work, met regularly through the end of

the year. Their work focused on mobilizing the Steering Committee Members and the Members' organizations to support the now named FCDE Committee in whatever way makes sense.

Bringing on a Consultant in 2021

Once the FCDE Planning Committee decided that a digital equity plan needed to be developed for Forsyth County, Members concluded that the Committee required additional capacity to create a comprehensive and inclusive plan that it wanted. Therefore, the Committee looked to a third-party consultant that would not deliver a cookie-cutter approach, rather something that would apply a racial equity lens and speak with residents without Internet in their homes to discuss their needs.

The Committee released a request for proposals (RFP) for their consultant in January 2021. As a result, A/R360 was brought to the table in March 2021.

Cost of the Digital Equity Plan

The Planning and Steering Committees raised \$59,500 to develop the *Forsyth County Digital Equity Plan*. This funding has been provided from the following sources:

- AT&T - \$4,500
- BAND-NC - \$5,000
- Kate B. Reynolds Charitable Trust - \$25,000
- Z. Smith Reynolds Foundation - \$25,000

The Future

The Planning Committee will remain engaged until every individual in the County is connected – across all races, ages, educational levels, etc. The Committee is always open to others who feel deeply connected and/or interested in the work. New perspectives are always welcome. In many ways, the work of the FCDE will be ongoing and possibly unending.

APPENDIX B: PLANNING AND STEERING COMMITTEES ORGANIZATIONAL INFORMATION

Action4Equity

Executive Director: Kellie P. Easton,
kellie@Action4EquityWS.org

Action4Equity is a Black-led, intentionally multi-racial coalition of educators, parents, students, faith leaders, and community members building a movement to advance equity for students in Winston-Salem/Forsyth County Schools in the areas of academic achievement, access to high-quality instruction, and safe and healthy school environments.

Using tools ranging from policy and advocacy to direct action, Action4Equity educates, applies pressure, and supports legal action to make real and lasting change within the Board of Education, Winston-Salem/Forsyth County Schools (WS/FCS) administration, and in our local schools. Through organizing and training leaders from the most impacted communities, Action4Equity is targeted at mobilizing community support to impact rapid change in

how WS/FCS defines, measures, and responds to racial inequity present in our schools today. For more information, visit Action4Equity.org.

Child Care Resource Center

Executive Director: Katura W. Jackson,
kjackson@childcareresourcecenter.org

The Child Care Resource Center (CCRC), formerly known as Work Family Resource Center, is the expert Child Care Resource and Referral organization, serving nine Northwest North Carolina Counties (Alleghany, Ashe, Davidson, Davie, Forsyth, Stokes, Surry, Wilkes, and Yadkin) for over 30 years. Created in 1991 as a collaborative effort between the Junior League of Winston-Salem, Northwest Child Development Council, The Winston-Salem Foundation, United Way of Forsyth County, and several local employers, CCRC's vision is to ensure quality early learning experiences for every child in the community. CCRC works with families and early childhood professionals to provide consumer education, referrals, and resources to promote quality child care. The agency's work focuses on coordinating child care services with child care needs and increasing public awareness about the importance of quality child care. For additional information, visit childcareresourcecenter.org.

Children's Defense Fund Freedom Schools - Old Town Community CDF Freedom School

Executive Director: Dr. Linda Winikoff,
ljzwinikoff@gmail.com

Rooted in the Mississippi Freedom Summer Project of 1964, *Children's Defense Fund (CDF) Freedom Schools* provide a six-week summer literacy and enrichment program for K-12 students who live in communities where quality academic enrichment programming is limited, too expensive, or non-existent. The CDF Freedom Schools program maintains that reading is the key to unlock the doors of a child's dreams and unlimited potential. Nationwide, the program has been proven to prevent summer learning loss and enhance motivation to read through a research-based, culturally relevant, activity-oriented Integrated Reading Curriculum (IRC).

The program operates at no cost to the scholars and provides breakfast and lunch, plus snacks. Summer 2021 brings nine *CDF Freedom School* sites to Winston-Salem. Action4Equity serves as the sites' fiduciary agent. The nine sites work in collaboration under the leadership of Dr. Dani Parker Moore (WFU Freedom School), The Rev. Russ May (Sunnyside Freedom School), and Juante Randleman (Area Project Director). More information can be found at childrensdefense.org/programs/cdf-freedom-schools.

City of Winston-Salem, NC

Chief Information Officer: Tom Kureczka,
tomk@cityofws.org

The City of Winston-Salem strives to be a municipal government deserving of

public confidence that provides excellent and innovative services. It is an active and cooperative partner in creating a vital community. Its mission is to provide quality, affordable services that ensure citizens' health, safety, and well-being while collaborating throughout the community to ensure its economic, social, and environmental vitality. The Mayor and City Council have identified six strategic focus areas to help guide the work of the City government, including economic vitality and diversity; safe and secure community; livable neighborhoods; healthy environment; quality transportation; and service excellence.

The City is home to 250,765 residents across 133.9 square miles. It is the 5th largest city (behind Charlotte, Raleigh, Greensboro, and Durham) in North Carolina and the 90th largest in the U.S.⁴⁴ For more information, visit cityofws.org.

Forsyth County, North Carolina

Chief Information Officer: David Kwiatkowski

The mission of Forsyth County Government is to cooperatively support and maintain a safe and healthy community; convenient and pleasant to live in; with educational, cultural, and economic opportunities for all. The County strives to provide responsive and innovative services, guided by integrity, professionalism, and compassion to its residents that enhance the quality of life and sense of community.

Although State requirements determine what many of the services and functions of the County must be, the County does have considerable discretion about how to provide these services and at what level to fund them. Some services and functions are provided directly by the County. Others are provided through contracts with the City of Winston-Salem or contracts with other providers. The County also makes grants to other community organizations, which provide human services; arts and cultural programs; and supportive services for the justice system. For more information about services that the County provides, visit co.forsyth.nc.us.

Forsyth County Public Library

Deputy Library Director: Elizabeth J. Skinner, skinneej@forsyth.cc

Assistant Library Director: Yolanda Bolen, boldenyf@forsyth.cc

Forsyth County Public Library serves the informational, recreational, and lifelong learning needs of Forsyth County's 388,453 residents through a Central Library in downtown Winston-Salem and nine branch libraries throughout Forsyth County. An Outreach Department targets services to underserved children, homebound adults, and the Hispanic community through home delivery and two bookmobiles. The Library also provides virtual library programs and a digital collection, including downloadable eAudiobooks, eMagazines, the digitized North Carolina photograph collection, and a

wide range of online databases. The Library offers programs for children, teens, and adults both in person and virtually. The Computer Training Bridge program offers one-on-one computer instruction and classes in popular software applications.

The Forsyth County Public Library is a member of the North Carolina Cardinal system that grants access to over eight million books and materials from member libraries across North Carolina. The North Carolina Collection is noteworthy for extensive local and State history, photograph collection, map collection, and regional genealogical resources. The Library has 125 employees who provide responsive patron assistance in all aspects of library services. For more information, visit forsythpl.org.

Forsyth Futures

Executive Director: Adam Hill, adam@forsythfutures.org

Forsyth Futures is a registered 501(c)(3) organization that provides action-oriented data analysis and reporting services to organizations within Forsyth County. The organization aims to provide an objective view of information regarding the County. Although it has existed for decades, the name Forsyth Futures evolved from the work of the Leadership Roundtable, a group of leaders from agencies focused on improving the quality of life and futures of children and families of Forsyth County.

In 2006, Forsyth Futures formally became the name of the nonprofit organization previously known as the Forsyth County Council of Children and Families, which emerged from the work of the early Juvenile Justice Council (est. 1975). Through data-based analyses and research studies, Forsyth Futures' team of experts seeks to understand topics such as the strength of our school system, the quality and equity of health care, and economic indicators like housing and transportation. For more information, visit forsythfutures.org.

The Forsyth Promise

Partnership Director: Charlette Lindell,
charlette.lindell@uwforsyth.org

The Forsyth Promise facilitates education-focused collaborative, community-wide planning and action. The organization provides a framework to help community stakeholders work together toward improved educational outcomes for all of Forsyth County's students – from cradle to career. The Forsyth Promise's core values are Equity, Engagement, and Data-Driven Decision Making. The Forsyth Promise is one of nearly 70 communities across 29 states and Washington, DC, who are members of the national StriveTogether Cradle to Career Network. StriveTogether is a national movement with a clear purpose: helping every child succeed in school and life from cradle to career, regardless of race, ethnicity, zip code, or circumstance. StriveTogether's focus on equitable solutions is centered on the premise that collective efforts locally can

lead to significant impact nationally. Its theory of action framework infuses the belief that collective impact is the engine that powers the communities in the Cradle to Career Network by supporting ideas, challenging one another, sharing expertise, and showing what's possible when individuals work together. For more information, visit forsythpromise.org.

Forsyth Technical Community College (Forsyth Tech)

Dean, Business & Information Technologies:
Pamela Shortt, pshortt@forsythtech.edu

Forsyth Technical Community College offers college transfer and two-year degree programs, corporate training, continuing education, personal enrichment classes, and much more. Forsyth Tech has served the community for sixty years and advances student success through excellence in learning, completion, equity, and post-graduation outcomes. Forsyth Tech is a catalyst for equitable economic mobility, empowering lives, and transforming communities. For more information about Forsyth Tech's programs, visit forsythtech.edu.

Forsyth Technical Community College's Neighborhood Empowerment Through Technology

Administrator Support Coordinator:
Linda D. Carter, lcarter@forsythtech.edu

The Neighborhood Empowerment Through Technology (NETT) Computer Skills Training

Program's goal is to engage, train, equip, and support students of the program. Students consist of the 13 Place Matters neighborhoods and surrounding areas who are unemployed/ underemployed and need digital literacy skills training for their current job or job search. The program delivers a focused marketing and engagement strategy working with partner agencies, including Forsyth Technical Community College (Forsyth Tech) and Forsyth County Public Library. The program provides computer skills training focused on employment, job search, resume and online applications, interviewing skills, conflict resolution, and dress for success. Graduating students will qualify for low-cost personal computers. In addition, some students pursue scholarship courses within our Economic and Workforce Development Department. Students of the NETT Program have had numerous successes with job placement and upward job mobility. Many have obtained Hot Spots from Forsyth Tech's "Forsyth Tech Cares Program." Others have been assisted with obtaining wi-fi through Low-cost Internet Providers. For more information, visit winstonnet.org/nett.

Goodwill Industries of Northwest North Carolina

Director Mission Performance Management:
Reni Geiger, rgeiger@goodwillnwncc.org

Goodwill Industries of Northwest North Carolina is a nonprofit organization that has served the community since 1926. By selling donated items in its stores, the organization

funds employment and training programs that help people find hope, opportunity, and jobs. Goodwill is recognized nationally as one of the most efficient charities - channeling 89 percent of revenues to mission and sustainability. This efficiency enabled Goodwill Industries of Northwest NC to provide services to more than 25,000 people in the last year alone. For more information, visit goodwillnwnc.org.

Greater Winston Salem, Inc.

Vice President of Public Policy: Calvin McRae, cmcrae@winstonsalem.com

Greater Winston-Salem, Inc. supports Winston-Salem and Forsyth County's economic growth through initiatives in economic recruitment and retention; talent and workforce development; advocacy; and entrepreneurial programming. The organization is committed to bringing an innovative mindset and collaborative effort to initiatives that develop a vibrant community that is good for business growth and sustainability. For more information, visit winstonsalem.com.

Housing Authority of the City of Winston-Salem

Community Relations Analyst: Darlie M. Dudley, ddudley@haws.org

Since 1941, the HAWS mission is to create and maintain sustainable communities through partnerships to benefit the City residents. They do so by creating a self-

sustaining, affordable housing and real estate development organization. Its core business involves real estate development and property management. HAWS' primary business goal is to diversify its portfolio of housing units and commercial real estate assets to help stabilize and revitalize local communities.

HAWS partners with various businesses and service providers to accomplish its goals. These partnerships provide numerous business opportunities that promote economic growth and development within the City of Winston-Salem, Forsyth County, and North Carolina. To learn more, visit haws.org.

The Kate B. Reynolds Charitable Trust

Senior Program Officer, Local Impact Program Area: Shenell McClurkin Thompson, Shenell@kbr.org

The Kate B. Reynolds Charitable Trust was established in 1947 and is now one of the largest private trusts in North Carolina. The Trust's mission is to improve residents' health and quality of life with low incomes in North Carolina. The Health Improvement in North Carolina program area supports community-wide health solutions across the State. The local impact in the Forsyth County program area fosters equitable and sustainable solutions to ensure everyone in Forsyth County thrives. Wells Fargo Bank, N.A. serves as the sole trustee. Visit kbr.org for more information.

Neighbors for Better Neighborhoods

Equitable and Economic Development

Director: Veronica Bitting, vbitting@nbncommunity.org

Strengthening Neighborhoods & Families

Program Director: Tembila Covington, M.S., tcovington@nbncommunity.org

Neighbors for Better Neighborhoods (NBN) is a nonprofit organization founded in 1990 by The Winston-Salem Foundation and neighborhood residents to support the local community. NBN's fundamental focus was based on human resources, its importance being reclaimed, and the development of healthy neighborhood leadership, all while acknowledging that both physical and human assets contribute to the vitality of the entire community.

NBN's mission is to connect people, strengthen voices, and leverage resources. The organization's vision is to create safe, just, and self-determined neighborhoods for all residents. For more information, visit nbncommunity.org.

The Partnership for Prosperity

Interim Director: Paula McCoy, paulamccoy5@gmail.com

Entrepreneur and Community Organizer, Navigator Lead, Love Out Loud: Santiago Ramos, philms.org@gmail.com

The Partnership for Prosperity (P4P) seeks to collaborate with the community on issues that will help to move the needle of poverty.

The organization seeks to align community resources so that they are effectively, purposefully, and efficiently used to benefit our most vulnerable populations, the poor, and people who lack the resources to function effectively. Furthermore, P4P seeks to break down silos by changing adversarial mindsets that operate from an attitude of distrust or competition. Finally, P4P advocates for policies that do not exacerbate the wealth gap, and allow families and individuals to experience economic mobility. For more information, visit partnershipforprosperityws.org.

Piedmont Triad Regional Council

Recovery and Resiliency Coordinator:

Jamie Herring, jherring@ptrc.org

The PTRC is a voluntary association of local governments - urban and rural - authorized by State law to make and implement joint regional decisions; provide management, planning, and technical services to local governments; identify and solve short and long-term problems best addressed at the regional level; bring together local elected officials regularly, allowing them to form working relationships; and promote regional issues and cooperation among its members.

The PTRC is one of the largest regional councils in NC, serving 74 members in and around the Greensboro / Winston-Salem / High Point metro area, including the following twelve County Region: Alamance, Caswell, Davidson, Davie, Forsyth, Guilford, Montgomery,

Randolph, Rockingham, Stokes, Surry, and Yadkin. For more information, visit ptrc.org.

Quality Education Academy

Chief Executive Officer: Tonya Bellanger,
tbellanger@qeschools.org

Quality Education Academy (QEA) is a tuition-free public charter school located in Winston-Salem that serves over 600 students in Kindergarten – 12th grades.

QEA is a Title I school where over 68% of our student population is classified as economically disadvantaged, and 100% of our students receive free breakfast and lunch daily. Over the past five years, QEA has met and/or exceeded academic growth measures set by North Carolina. QEA's goal is to ensure every student receives an excellent educational experience throughout their entire journey. QEA continuously strives to fulfill its core value to "raise the quality of life of everyone we touch." For more information, visit qeschools.org.

United Way of Forsyth County

**Director, Place-Based Initiatives,
Community Planning and Investment:**
Rodd Smith, rodd.smith@uwforysyt.org

United Way of Forsyth County (UWFC) brings the community and its resources together to solve problems that no one organization can address alone. The organization envisions a world-class community where no one lives

in poverty, and everyone holds the power to access the opportunities and resources needed to thrive.

UWFC invests in over 60 programs, and initiatives with more than 40 local partner nonprofit organizations focused on the key impact areas of education, economically mobile, health, and basic needs. These four focus areas are part of the evolution to the *Economic Mobility Roadmap*, which addresses the overall question of why the organization invests in problem-solving to overcome roadblocks and barriers that prevent households from achieving economic self-sufficiency. UWFC creates opportunities for a better life for everyone by engaging people from all walks of life and inspiring action to build a better community. For more information, visit ForsythUnitedWay.org.

University of North Carolina School of the Arts

**Vice Chancellor of Economic Development
and Chief of Staff:** Jim DeCristo,
decristoj@uncsa.edu

The University of North Carolina School of the Arts (UNCSA) is a top-ranked performing arts, visual arts, and filmmaking conservatory preparing high school, undergraduate, and graduate students for professional careers in dance companies, top orchestras, themed entertainment, major motion picture companies, on Broadway, and more. Faculty with entertainment industry experience and

expertise mentor gifted, wildly creative, and passionate students to do what they love, and do it brilliantly. UNCSA offers the unique opportunity for cross-disciplinary artistic collaboration as the only institution in the U.S. composed of five top art schools: Dance; Design and Production; Drama; Filmmaking; and Music. For more information, visit uncsa.edu.

Wake Downtown

Associate Director, Community Engagement:

Alana James, jamesam@wfu.edu

Wake Downtown is the locus of Wake Forest University's three new undergraduate academic programs in Biochemistry and Molecular Biology; Medicinal Chemistry and Drug Discovery; and Engineering. The University was presented with a unique opportunity to design space in an old Reynolds Tobacco building (Building 60) for classrooms, teaching labs, and research labs that provide next-generation facilities and innovative Reynolds/Medical School faculty partnerships. In addition to the three anchor programs, Wake Downtown also serves as an interdisciplinary hub, hosting courses from academic departments in the arts and humanities that benefit from the building's innovative teaching spaces and urban setting. For more information, visit wakedowntown.wfu.edu.

Wake Forest Baptist Health

Associate Director, Community Engagement:

Alana James, jamesam@wfu.edu

Wake Forest Baptist Health is a pre-eminent academic health system based in Winston-Salem.

Wake Forest Baptist's two main components are an integrated clinical system – anchored by Wake Forest Baptist Medical Center, an 885-bed tertiary-care hospital in Winston-Salem – that includes Brenner Children's Hospital, five community hospitals, more than 350 primary and specialty care locations, and more than 2,500 physicians; and Wake Forest School of Medicine, a recognized leader in experiential medical education and groundbreaking research that includes Wake Forest Innovations, a commercialization enterprise focused on advancing health care through new medical technologies and biomedical discovery. For more information, visit wakehealth.edu.

Wake Forest University

Senior Assistant Provost, Dean of University Collaborations: Martha

Blevins Allman, allmanmb@wfu.edu

Founded in 1834, Wake Forest University is a private university located in Winston-Salem, with more than 8,000 students. The undergraduate population of more than 5,200 hails from 49 states and more than 50 foreign countries. The University offers a vibrant and diverse academic community in which students pursue learning in one or more of the 45 majors, 60 minors, and additional programs within six colleges and schools.

In September 2020, *U.S. News & World Report* ranked Wake Forest as one of the top 30 National Universities for the 25th consecutive year. In addition to the overall standing of 28th place, Wake Forest stands at 24th for Best Value. For more information, visit wfu.edu.

WinstonNet

Executive Director: Lynda Goff,

imgoff@gmail.com

Incoming Executive Director: Lakisha

Jordan, ljordanwinstonnet@gmail.com

WinstonNet is a technology nonprofit 501(c)(3) established in 2001 and is a leader in digital equity and digital inclusion in Winston-Salem/Forsyth County. The organization is dedicated to ensuring that all individuals in the County have the information technology capacity needed for full participation in society, democracy, and economy—all of which are necessary for civic and cultural participation, employment, healthcare, lifelong learning, and access to essential services.

WinstonNet supports and operates 25 community computer labs with over 175 public computers and free WiFi access at all locations. These geographically disbursed centers are in City community centers, YMCA, nonprofits, and faith-based organizations. In addition, WinstonNet collaborates with local community organizations and businesses on various programs and has raised several million dollars to support digital inclusion programs over the past 20 years. These programs

include computer skills training, affordable refurbished computers, how-to access low-cost home Internet service, and hosting free technology support events throughout the year. For more information about WinstonNet, visit winstonnet.org.

The Winston-Salem Foundation

Program Officer, Equity in Education:

Layla Garms, lgarms@wsfoundation.org

The Winston-Salem Foundation (The WSF) was established in 1919 with a donation of \$1,000. The WSF was the first foundation of any type to be established in North Carolina and is the 16th oldest community foundation in the U.S. For over a hundred years, thousands of individuals and organizations have partnered with The WSF to improve the quality of life in Winston-Salem, Forsyth County, and beyond. The WSF is committed to keeping pace with the most pressing challenges and opportunities facing County today. As a result, it has focused its community investments in two key areas—Building an Inclusive Economic and Advancing Equity in Education. These efforts are crucial to ensuring that Winston-Salem becomes a place where race no longer predicts life outcomes. For more information, visit wsfoundation.org.

Winston-Salem/Forsyth County Schools (WS/FCS)

Executive Director of Equity, Access, and Acceleration: Effie McMillian, Ed.D., egmcmillian@wsfcs.k12.nc.us

Assistant Superintendent of Information

Technology: Kevin Sherrill, kssherrill@wsfcs.k12.nc.us

WS/FCS was formed in 1963 with the merger of the Winston-Salem and Forsyth County districts. It is the fourth-largest school system in North Carolina and the 81st-largest in the nation. Its mission is to provide all students with educational opportunities to become responsible, productive, global citizens. The WS/FCS fosters educational excellence as all students prepare to become successful citizens. WS/FCS serves more than 52,000 students in Pre-K through Grade 12 to provide a quality education for each child. The school system has 44 elementary schools, 14 middle schools, and 13 high schools. Seven specialty schools bring the system-wide total to 78. Districtwide, 34.5% of the students are white; 29.4% are Black; 28.4% are Hispanic; 4.7% are multiracial; 2.7% are Asian; and less than 1% are American Indian or Native Hawaiian/Pacific Islander. For more information about WS/FCS, visit wsfcs.k12.nc.us.

Winston-Salem State University

Interim Equal Employment Officer:

Quentin Gunter, gunterqd@wssu.edu

Winston-Salem State University (WSSU) is a bold, vibrant, and diverse academic community that fosters the creative thinking, analytical problem-solving, and depth of character graduates need to transform themselves and their world.

These values embody the University's motto, "Enter to Learn. Depart to Serve."

Founded in 1892, WSSU enjoys a distinguished reputation as a historically black constituent institution of the University of North Carolina that offers a rich curriculum rooted in a high-quality, liberal education. As a result, undergraduate and graduate students can choose from many innovative areas of study designed to equip them with the skills and knowledge needed to develop creative solutions to today's and tomorrow's complex problems.

WSSU continues to rank high on national lists, including #1 HBCU in the Nation for Social Mobility (CollegeNET); #2 HBCU in the U.S. for Value (Money Magazine); Top 10 Best-Value colleges in N.C. (SmartAsset.com); Top 10 HBCUs Changing the World (College Magazine); Top 10 Military-Friendly School (Military Friendly); and Top 25 Best HBCUs in the U.S. (College Raptor). For more information about WSSU, visit wssu.edu.

Z. Smith Reynolds Foundation (ZSR)

Program Officer: Caitlin Burke,

caitlinb@zsr.org

Z. Smith Reynolds Foundation is committed to improving the quality of life for all North Carolinians. ZSR is a Statewide, private family foundation that has been a catalyst for positive change in North Carolina for more than 80 years. In June 2018, the Foundation announced All For NC: Z. Smith Reynolds

Foundation's Framework for Grantmaking and Learning. Headquartered in Winston-Salem, ZSR has invested \$627 million into the State. To learn more about ZSR and its All For NC Framework, visit zsr.org.

APPENDIX C: COMPUTER TRAINING BRIDGE PROGRAM OVERVIEW; A COOPERATIVE FORSYTH COUNTY PUBLIC LIBRARY OUTREACH PROGRAM

The Computer Training Bridge (CTB) focuses on expanding and adding educational opportunities for those in our community who need basic, high-quality computer literacy training. With the help of the CTB Coordinator and Computer Coaches, this program has improved the productive quality of life for those individuals who have had to adjust to living in an electronic, networked, computer-based society by providing classes, training, workshops, and one-one-assistance. The program was initially designed for underserved citizens, but it has changed due to requests from community agencies and organizations within Forsyth County.

Location

The CTB services and training are available at the Central Library, nine library branches, and two bookmobiles. In addition, in partnership with WinstonNet and Forsyth Tech, CTB can provide services within recreation and community centers, churches, and local universities.

Pre-Pandemic

CTB has received several requests to provide group and face-to-face classes across Forsyth County to retirement communities, recreation centers, churches, and to participate in university events (job fairs/career fairs) and work with various agencies, such as Crosby Scholars, Health Department, Department of Social Services, Family Services, City of Winston-Salem, Cooperative Extension, Habitat for Humanity, LEAD Girls of NC, Teacher Workshops, NC Works/Employment Security Commission, Work Family Resources Center, Urban League, Salvation Army, Forsyth Tech, YWCA, and Goodwill.

Twelve hundred brochures are printed bi-monthly to advertise classes and other technology events within the Library. These materials are sent to over 43 locations within Forsyth County, and several agencies received the brochure electronically.

Pandemic

Before the pandemic, the CTB offered face-to-face classes. However, the program changed when the pandemic occurred. CTB staff developed a new strategy about how to educate the public. After researching, CTB staff decided to make services available online. CTB advertised its programs on social media (Facebook® and Twitter®); the Library, and CTB websites; with flyers; and by word-of-mouth. CTB has also assisted with the Open Help Lab, where Library staff members assist with any technology needs from resume help

to Excel, two hours a day Monday-Friday, and every second Saturday at the Central Library location. As of June 2020, CTB has reopened the Carver School Road Branch (Winston-Salem) Open Help lab on Wednesdays. In addition, librarians offer one-on-one customer technical assistance during all Library open hours of operation at all ten Library locations, as needed by full-time staff members and Library Tech pages.

CTB decided not to print brochures during the pandemic, as most agencies were closed. In place of the brochures, CTB printed bookmarks/postcards in Spanish and English, and advertised the program. These items were put in books that patrons in the Library To-Go service requested. Library patrons at home took advantage of the classes and improved their computer skills. The CTB developed a digital evaluation form to gather participant feedback and gauge community need for additional class offerings. This feedback will yield future CTB offerings. Below is data showing usage of the CTB pre-, during-, and post-pandemic. (Attendance indicates how many individuals participated in CTB classes; programs indicate how many events across the County that the CTB participated in, including classes, career fairs, booths, etc.)

Year	Attendance	Programs
2019 (pre-pandemic)	10,468	5,393
2020 (pandemic)	1,254	452
2021 (post-pandemic)	1,502	192

CTB took on another major project – updating the CTB logo and website to make it more user-friendly. The website, [ForsythComputerTraining.org](https://www.forsythcomputertraining.org), has not been updated since the program launched in 2005.

Post-Pandemic

CTB staff will notify agencies when CTB will resume training at outside organizations; at that time, the Library will begin distributing brochures again. In addition, CTB will partner with new groups, including LEAD Girls NC, Girls with a Purpose, and TURN (Tutoring and Enrichment Program). Unfortunately, such partnership development was halted temporarily during the pandemic.

CTB will continue to work with other organizations, such as Arbor Acres Retirement Center; Bethesda Center for the Homeless; Child Care Resource Center; City of Winston-Salem; community centers; Crosby Scholars; Forsyth County Center at the North Carolina Cooperative Extension; Forsyth Technical Community College; Goodwill Industries of Northwest North Carolina, Inc.; Habitat for Humanity; NCWorks/ESC; North Carolina Department of Public Health; North Carolina Department of Social Services, Family & Children’s Services Division; recreation centers; Salvation Army; United Metropolitan Missionary Baptist Church; university events (job fairs/career fairs); Winston-Salem Urban League; and YWCA.

APPENDIX D: ACRONYMS

- **A/R360** – A/R360 Consultants, LLC
- **ACS** – Census Bureau’s American Community Survey
- **ARC** – Appalachian Regional Commission
- **BAND-NC** – Building a New Digital Economy in North Carolina
- **CCRC** – Child Care Resource Center
- **CDF** – Children’s Defense Fund
- **COVID-19** – Novel coronavirus SARS-CoV2
- **CTB** – Computer Training Bridge
- **DEI** – diversity, equity, and inclusion
- **DSL** – digital subscriber line
- **FAQ** – frequently asked questions
- **FCC** – Federal Communications Commission
- **FCDE** – Forsyth County Digital Equity
- **Forsyth Tech** – Forsyth Technical Community College
- **G** – generation
- **GDP** – gross domestic product
- **HAWS** – Housing Authority of the City of Winston-Salem
- **HR** – Human Resources
- **ICT** – Information and Community Technology
- **IRC** – Integrated Reading Curriculum
- **ISPs** – Internet service providers
- **IT** – information technology
- **JTCs** – Job Training Centers
- **Mbps** – megabits per second
- **NBN** – Neighbors for Better Neighborhoods
- **NETT** – Neighborhood Empowerment Through Technology
- **P4P** – Partnership for Prosperity
- **Plan** – Forsyth County *Digital Equity Plan*
- **PTRC** – Piedmont Triad Regional Council
- **PwC** – PricewaterhouseCoopers
- **QEA** – Quality Education Academy
- **RFP** – Request for proposals
- **SNAP** – Supplemental Nutrition Assistance Program
- **UNCSA** – University of North Carolina School of the Arts
- **UWFC** – United Way of Forsyth County
- **WIBs** – Workforce Investment Boards
- **WS/FCS** – Winston-Salem/Forsyth County Schools
- **WSSU** – Winston-Salem State University
- **The WSF** – The Winston-Salem Foundation
- **ZSR** – Z. Smith Reynolds Foundation

APPENDIX E: CITATIONS

1. Mcknight, Glenn. "Definitions from NDIA." *Internet Governance Hub*, 20 June 2021, bit.ly/NDIAdefinitions.
2. "Definitions." National Digital Inclusion Alliance, 20 June 2021, bit.ly/DigitalDefs.
3. Ibid.
4. Ibid.
5. "2018 Broadband Deployment Report." Federal Communications Commission, 20 June 2021, bit.ly/FCC2018Deployment
6. Minges, Michael. "Exploring the Relationship Between Broadband and Economic Growth." *World Development Report*. (2016). bit.ly/Minges2016
7. Gordon, Larry. "Free Khan Academy SAT tutorials boost scores, study finds." 15 June 2021, bit.ly/FreeKhan
8. "Opportunity Score for Forsyth County." *Opportunity Index*, 15 June 2021, opportunityindex.org.
9. McCann, Adam. "Most Diverse Cities in the U.S." *WalletHub*, 15 June 2021, bit.ly/McCann2021.
10. "Opportunity Score for Forsyth County." *Opportunity Index*, 15 June 2021, opportunityindex.org.
11. Ibid.
12. Ibid.
13. McCann, Adam. "Most Diverse Cities in the U.S." *WalletHub*, 15 June 2021, bit.ly/McCann2021.
14. "2018 Broadband Deployment Report." *Federal Communications Commission*, 20 June 2021, bit.ly/FCC2018Deployment
15. Sherman, Stacie. "Cuomo Signs New York Bill Requiring Low-Cost Broadband Access." *Bloomberg Today*, 22 June 2021, bit.ly/Sherman2021.
16. U.S. Census Bureau, *2015-2019 American Community Survey (ACS) 5-year Estimates*, 1 June 2021, census.gov/acs.
17. McCann, Adam. "Most Diverse Cities in the U.S." *WalletHub*, 15 June 2021, bit.ly/McCann2021.
18. U.S. Census Bureau, *2015-2019 American Community Survey (ACS) 5-year Estimates*, 1 June 2021, census.gov/acs.
19. Greenblatt, Alan. "Why Black neighborhoods continue to struggle." *Governing*, 24 June 2021, bit.ly/Greenblatt2021.
20. Perry, Andre. "The devaluation of assets in Black neighborhoods." *The Brookings Institution*, 24 June 2021, bit.ly/2018Perry.
21. Greenblatt, Alan. "Why Black neighborhoods continue to struggle." *Governing*, 24 June 2021, bit.ly/Greenblatt2021.
22. U.S. Census Bureau, *2015-2019 American Community Survey (ACS) 5-year Estimates*, 1 June 2021, census.gov/acs.
23. Capps, Kriston. "The Hitch in Kentucky's Plan to Build High-Speed Internet for All." *Bloomberg*, 5 June 2021, bit.ly/Capps2018.
24. Vock, Daniel. "New P3s May Finally Bridge the Digital Divide." *Governing*, 10 June 2021, bit.ly/Vock2017.
25. Scheller, Kathy. "Broadband public/private partnerships are working in North Carolina." *Coalition for Local Internet Choice*, 14 June 2021, bit.ly/Scheller2021.
26. "Get Connected." Universal Service Administrative Co., 20 June 2021, lifelinesupport.org.
27. Willcox, James. "Struggling to Pay for Internet Services? New Emergency Broadband Benefits May Help." *Consumer Reports*, 3 June 2021, bit.ly/Willcox2021.
28. Ibid.
29. Editor-in-Chief. "NC House votes to expand high-speed broadband internet access across state." *America's Triangle*, 20 June 2021, bit.ly/2021Triangle.
30. Appalachian Regional Commission, 12 June 2021, arc.gov.
31. "Economic Development." Piedmont Triad Regional Council, 6 June 2021, bit.ly/PTRCEconomic.

32. U.S. Census Bureau, *2015-2019 American Community Survey (ACS) 5-year Estimates*, 1 June 2021, [census.gov/acs](https://www.census.gov/acs).
33. Sankin, Aaron. "Internet access won't fix inequality." *Greenlining*, 28 May 2021, bit.ly/Sankin2013.
34. Ibid.
35. Ibid.
36. Ibid.
37. "Definitions." National Digital Inclusion Alliance, 20 June 2021, digitalinclusion.org/definitions.
38. Courtney, Emily. "Remote Work Statistics: Navigating the New Journal." *Flexjobs*, 2 June 2021, bit.ly/Courtney2021.
39. Ibid.
40. Leap Fund. "Benefits Cliff," 4 June 2021, benefitscliff.com.
41. BroadbandNow, 15 June 2021, broadbandnow.com/North-Carolina.
42. "Mesh Networking." *Wikipedia: The Free Encyclopedia*. 22 June 2021, w.wiki/3Ygj
43. "About Us." Institute for Emerging Issues." 15 May 2021, iei.ncsu.edu/about-us.
44. "List of Municipalities in North Carolina." *Wikipedia: The Free Encyclopedia*. 22 June 2021, w.wiki/3Ygk.



Take the Next step...

Visit the *Plan's* website – [FCDigitalEquity.org](https://fcdigitalequity.org) – to learn more about the *Plan* and access additional data.

Contact the Forsyth County Digital Equity Committee at 336.448.4941 or info@fcdigitalequity.org to lend your voice in the efforts to bring total digital equity to Forsyth County.



