

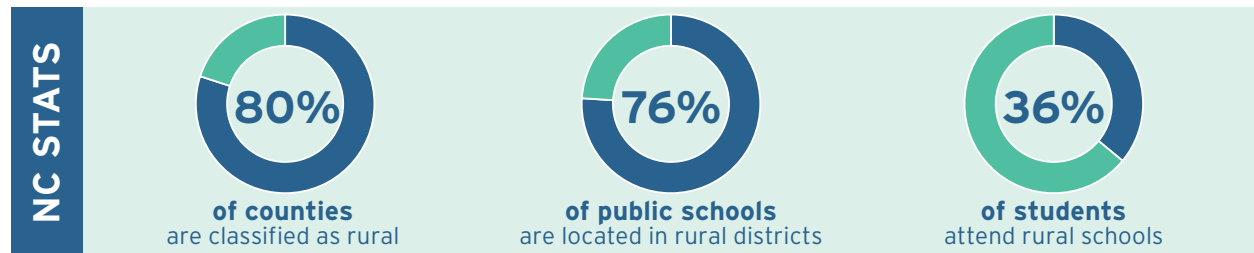


STUDY GROUP XVII:

Supporting North Carolina's Rural Students

Executive Summary

North Carolina is second only to Texas in total population living in rural communities. Eighty of the state's 100 counties are classified as rural, and 87 of our 115 public school districts are in rural counties.¹ Thirty-six percent of all students in the state attend rural schools.²



Rural North Carolina has been hard hit by major structural changes in the economy over the last few decades, including automation, industry consolidation, and offshoring. The increasingly challenging economic conditions affecting our rural areas have had a dramatic impact on the educational resources and opportunities available to students. At the same time, our rural districts are strengthened by strong family, school, and community ties; dedicated educators and school leaders; and innovative education strategies from which all districts in the state can learn.

Over the course of six months beginning in October 2019, the Public School Forum convened stakeholders from across North Carolina and across the education continuum to discuss strategies to better support our state's rural students. Study Group XVII participants shared their experiences, perspectives, and solutions for addressing the unique needs of our rural communities, culminating in a set of recommendations for policy and practice focused on four key domains: teacher recruitment and retention, broadband, postsecondary attainment and workforce alignment, and school funding.

¹ North Carolina Rural Center. About Us. <https://www.ncruralcenter.org/about-us/>

² Showalter, D., Hartman, S., Johnson, J. and Klein, B. (2019). Why Rural Matters 2018-2019. The Rural School and Community Trust. <http://www.ruraledu.org/WhyRuralMatters.pdf>

Summary of Recommendations



Teacher Recruitment and Retention

1. Replicate and strengthen promising models to recruit and retain a diverse, home grown teacher workforce in rural districts
2. Expand the North Carolina Teaching Fellows Program
3. Increase teacher salaries, make pay more equitable, and provide incentives to teach in rural communities
4. Provide incentives for teachers and their families to live in rural communities
5. Adequately fund and strengthen professional learning, leadership, and growth opportunities for educators



Postsecondary Attainment and Workforce Alignment

1. Build and strengthen partnerships across K-12, higher education, and the workforce
2. Implement calendar flexibility to allow districts to align K-12 school calendars with community colleges and four-year institutions
3. Build upon and expand Career and College Pathways Programs
4. Ensure all students have access to information about college application and enrollment
5. Expand access, adoption, and affordability of broadband



Broadband

1. Provide short-term solutions to broadband access for students and families
2. Gather better data on broadband access, affordability, and adoption to assess need
3. Support the GREAT Grant Program
4. Modernize the federal Lifeline Program
5. Promote broadband access as an economic development and recruitment effort



School Funding

1. Provide adequate state funding for all school districts
2. Target increased state funding to students and schools with greatest need
3. Allow local school districts the flexibility to use state funds to meet their unique needs
4. Address the impact of COVID-19 on school district budgets

Introduction

In October 2019, the Public School Forum of North Carolina launched Study Group XVII: Supporting North Carolina's Rural Students. Building on the Forum's long history of exploring the most pressing issues impacting our state's public schools, our seventeenth Study Group convened thought leaders from education, academia, policy, and business to delve into understanding and addressing the unique needs, challenges, strengths, and perspectives of students, educators, and families in the state's rural communities.

The work of Study Group XVII was guided by four co-chairs with expertise in rural education:

- **Dr. Shirley Carraway**, Retired Public School Superintendent
- **Dr. Jeni Corn**, Director of Strategic Initiatives, myFutureNC
- **Dr. Doris Terry Williams**, Senior Fellow, Rural School and Community Trust
- **Patrick Woodie**, President, NC Rural Center

The Study Group XVII Process

The Forum hosted six Study Group convenings in Wake, Edgecombe, Robeson, and Rutherford counties. The regional meetings included panels of rural school district leaders, policymakers, and representatives from community colleges and universities, as well as facilitated discussions with attendees to envision promising practices and policy recommendations. From these discussions, the following four key areas of focus emerged:



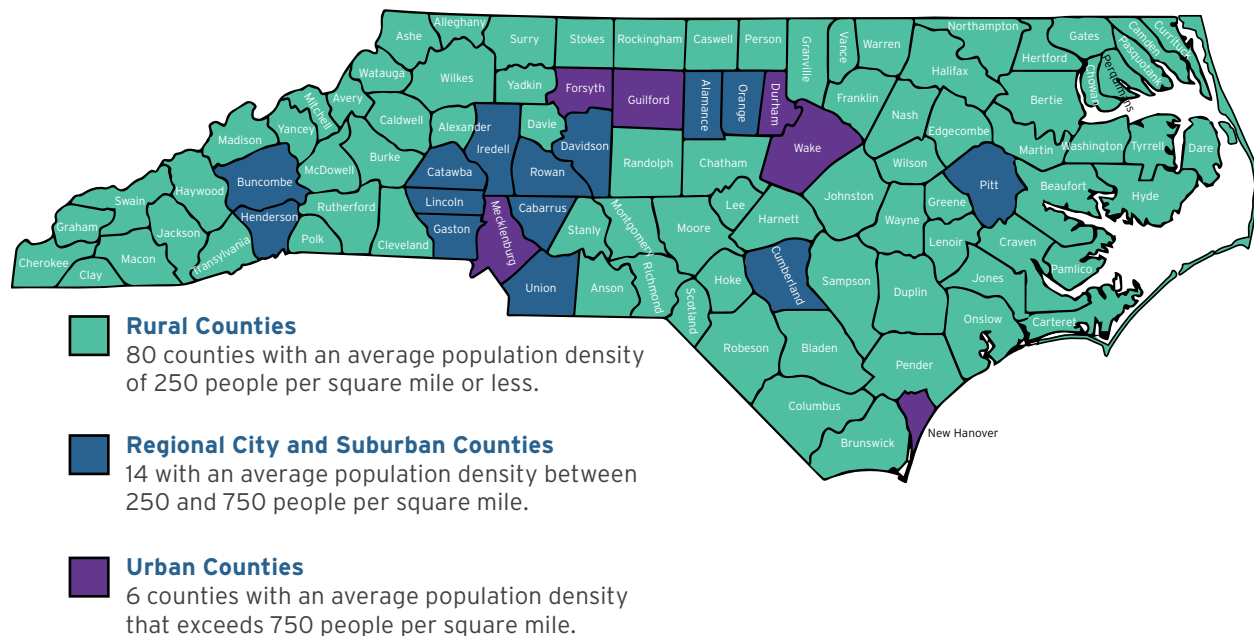
In subsequent meetings, Study Group members engaged in deeper discussions on each of the four focus areas. We were also joined by subject-matter experts from education, research, and policy who shared rich data and insights from their work to inform the final recommendations. Finally, we compiled a list of recommendations based on discussions with more than 200 Study Group participants from across the state. The draft recommendations were shared with all participants via a survey to garner additional feedback in preparation for the final report. The full list of speakers

for all Study Group XVII meetings can be found in [Appendix I](#), and the list of counties represented among Study Group Members can be found in [Appendix II](#).

Supporting North Carolina's Rural Students

North Carolina's rural communities are central to what makes our state unique. From the mountains of western North Carolina to the coastal towns in the east, no rural community is the same; all have unique assets and challenges. Study Group XVII endeavored to shine a bright light on the strengths, opportunities, and needs of the 80 counties that our diverse population of 525,000 rural students calls home. The recommendations that follow offer guidance for education leaders and policymakers to address the needs of North Carolina's rural students, which too often go unmet.

North Carolina Counties



This report relies on the North Carolina Rural Center's definitions of rural, regional city and suburban, and urban counties. Source: North Carolina Rural Center. About Us. <https://www.ncruralcenter.org/about-us/> Densities as reported in 2014 U.S. Census population densities



Teacher Recruitment and Retention



The Problem

In rural school districts, teacher recruitment and retention can be especially difficult. Due to widespread teacher shortages across the state, all districts must compete for a limited supply of teachers, and rural districts face additional, unique challenges.

Between March 2018 and March 2019, more than 7,000 teachers left their jobs within North Carolina's public schools. Yet North Carolina's colleges and universities, private and public, only graduated approximately 4,200 educators in 2017³ – which is not enough to keep pace with demand. Rural school districts are experiencing some of the most severe teacher shortages, with Washington, Hoke, Anson, Bladen, Bertie, and Edgecombe counties topping the list of teacher vacancy rates in North Carolina. By region, teacher attrition rates are highest in the Southeastern and Sandhills regions of the state.⁴

Additionally, the teacher workforce in North Carolina is not representative of our student population. Over fifty percent of students in North Carolina are students of color, while just over 20 percent of the teacher workforce are teachers of color. These disparities are even more pronounced in rural school districts. A 2019 analysis by WRAL News found that

“Eleven school districts in the state had no Hispanic teachers last school year, and eight school systems had no Black teachers. One district had no teachers of color at all.”⁵ Nearly all of those districts are rural and enroll significant percentages of students of color.

To cope with these challenges, rural districts have turned to programs such as Teach for America or have recruited international teachers to grow and diversify their workforce. While these programs can be an effective way of addressing shortages of qualified teachers, they are designed to attract educators to the classroom for a limited period of time, typically two or three years. Many teachers coming to rural areas through these programs leave the classroom soon after that time period, leaving rural school districts chronically short-staffed and without a stable teacher workforce that is representative of their student bodies.

3 Public School Forum of North Carolina. (2019). North Carolina's "Average" Teacher Pay Myth. <https://www.ncforum.org/north-carolinas-average-teacher-pay-myth-an-analysis-by-the-public-school-forum-of-north-carolina/>

4 Public Schools of North Carolina. (February 15, 2020). Report to the North Carolina General Assembly: 2018-2019 State of the Teaching Profession in North Carolina. https://files.nc.gov/dpi/state-of-teaching-profession_20200310.pdf.

5 Hinchcliffe, K. (January 24, 2020). NC's Teacher Diversity Gap: Where are the black and brown teachers? WRAL. <https://www.wral.com/nc-s-teacher-diversity-gap-where-are-the-black-and-brown-teachers/18129132/>



The Barriers

North Carolina's teacher preparation programs – public and private – produce at least half of all North Carolina teachers.⁶ Enrollment in the UNC System's colleges of education has declined considerably over the last decade. Between 2011 and 2018, many of the state's public teacher preparation programs saw double-digit declines in enrollment.

Change in Education Degree Enrollment (2011-2018)		
UNC System Program	Enrollment Change (Number of Students)	Enrollment Change (Percentage)
Appalachian State University	-634	-25.02%
Elizabeth City State University	-322	-78.92%
East Carolina University	-808	-24.96%
Fayetteville State University	-417	-63.09%
North Carolina A & T	-386	-36.28%
North Carolina Central University	-292	-40.44%
North Carolina State University	-240	-16.63%
UNC-Chapel Hill	-168	-33.14%
UNC-Asheville	-29	-22.23%
UNC-Charlotte	-665	-28.23%
UNC-Greensboro	-441	-26.96%
UNC-Pembroke	-386	-34.81%
UNC-Wilmington	119	14.20%
Western Carolina University	-360	-25.32%
Winston-Salem State University	-238	-65.93%

Source: Enrollment Trends, Available at <https://eqdashboard.northcarolina.edu/preparation/>

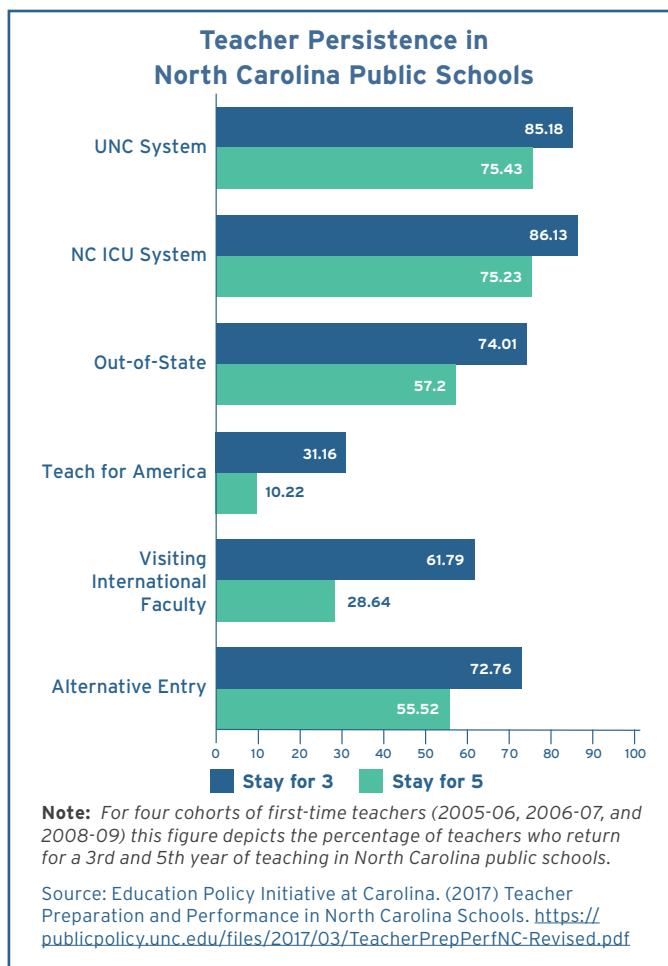
While recruiting teachers from out of state or using alternative programs is one way to address the imbalance between teacher supply and demand, retaining teachers who were trained outside of public and private teacher preparation programs is challenging. An analysis by the Education Policy Initiative at UNC Chapel Hill found that teacher persistence rates over 3 and 5 years are dramatically lower for those who come through alternative preparation programs.⁷ Perhaps exacerbating this problem is the fact that rural districts have to deal with the geographic and social isolation of their schools and communities. This reality may prevent teachers from moving to rural areas to teach in a school district long-term, especially if they are not originally from the community.

⁶ Education Policy Initiative at Carolina. (2017). Teacher Preparation and Performance in North Carolina Schools. <https://publicpolicy.unc.edu/files/2017/03/TeacherPrepPerfNC-Revised.pdf>

⁷ Education Policy Initiative at Carolina. (2017). Teacher Preparation and Performance in North Carolina Schools. <https://publicpolicy.unc.edu/files/2017/03/TeacherPrepPerfNC-Revised.pdf>

The difficulty of recruiting and retaining teachers leads to staffing shortages in rural schools. These shortages result in larger class sizes and create disparities in the educational opportunities available to rural vs non-rural students. This is particularly true in specific subject areas, including STEM. Rural students with special needs and ESL students also have less access to teachers who can meet their unique needs.

Funding also plays a significant role in the challenge of attracting and retaining teachers in most rural schools. Compared to urban and suburban counties, most rural counties generate less money from property taxes, given their lower property values. As a result, rural counties often have fewer resources to supplement salaries, which helps to attract and retain teachers. In 2019, the Public School Forum's Average Teacher Pay Myth report revealed that 87 percent of North Carolina's school districts offered salary supplements to teachers that are lower than the state average salary supplement.⁸ Wake County, a large urban school district, offers a salary supplement of \$8,700, while Vance County, a nearby rural school district, can only offer a supplemental salary of \$1,748, although they tax their residents at twice the rate of Wake County. Given the choice between the two salaries, a teacher is likely to take a job in Wake County and endure a lengthy commute, or even relocate from Vance to Wake County. Vance County is not alone in this challenge; many of North Carolina's rural school districts – especially those that serve high populations of low-income students and students of color – face a similar challenge.



⁸ Public School Forum of North Carolina. (2019). North Carolina's "Average" Teacher Pay Myth. <https://www.ncforum.org/north-carolinas-average-teacher-pay-myth-an-analysis-by-the-public-school-forum-of-north-carolina/>



Recommendations

1 Replicate and strengthen promising models to recruit and retain a diverse, homegrown teacher workforce in rural districts.

Grow Your Own educator programs, which aim to recruit and retain people from local communities to become trained and teach within those same communities, can be a promising strategy to recruit and retain teachers in rural areas. These programs work by recruiting and preparing local high school students, community members, career changers, paraprofessionals, after school program staff, and others working in schools to become teachers. These partnerships can also help to diversify the teacher workforce and staff local schools with teachers who have strong connections to their communities.⁹

Partnerships between school districts, community colleges, and four-year universities can provide a seamless transition and a lower-cost option for students from rural communities to become classroom teachers in their local school district after graduation. Examples of such models include Partnership Teach at East Carolina University, a 2+2 Teacher Preparation Partnership Program between Halifax Community College and Elizabeth City State University, and the Johnston County and NCSU Dual Enrollment Program. These partnerships provide affordable teacher preparation to students without requiring them to move or commute long hours to a four-year institution, most of which are not located in rural communities.

By expanding and financially supporting teacher pipeline programs that aim to recruit homegrown teachers to work in rural communities, North Carolina can effectively invest in their students, the future teacher workforce, and local economies.

Promising Models

The Partnership Teach program at East Carolina University offers cohorts for elementary, middle, and high school education a \$10,000 scholarship for teacher preparation. For the first two years, fellows take courses at one of the local partnering community colleges before taking online courses through ECU. Participants also complete an internship and are placed in student teaching roles in local public schools. The Partnership Teach ECU program has graduated over 850 North Carolina teachers who are highly-qualified and staying in their local communities to teach.

Halifax Community College and Elizabeth City State University partnered to create a 2+2 Teacher Prep Program, which allows prospective teachers who live and work in Halifax County to complete a 4-year degree in elementary

⁹ WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). Sound Basic Education for All: An Action Plan for North Carolina. San Francisco, CA: WestEd. <https://www.ncforum.org/wp-content/uploads/2019/12/Sound-Basic-Education-for-All-An-Action-Plan-for-North-Carolina.pdf>

education without leaving home. Students complete their Associate Arts degree at Halifax Community College, then enroll in distance learning through ECSU. This program is helping to address teacher shortages in Halifax and Northampton Counties, while reducing the financial and travel burdens on students. In the first semester, over 100 students enrolled in the program, which was first open to teacher assistants. Now the program enrolls students who are just out of high school, as well as working adults who are looking for a career change.

*Students enrolled in the Johnston County and NCSU **Dual Enrollment Program** earn their Associate in Science (Teacher Education Concentration) from Johnston County Community College. If students complete their degree with at least a 3.0 GPA, they will be accepted into a teacher education program at NC State University, and are competitive for NC State teaching scholarships. During their final years at NC State, students complete field-based experiences in Johnston County Public Schools, and return to teach in the district upon graduation.*

2 Expand the North Carolina Teaching Fellows Program

State lawmakers should also expand the North Carolina Teaching Fellows program to additional colleges and universities across the state, especially to HBCUs and universities located in rural areas. In its original form, the state-funded Teaching Fellows program, then run by the Forum, was in place in 17 colleges and universities, including those located in or surrounded by rural areas, like UNC Pembroke, Western Carolina University, Campbell University, and East Carolina University. The program aimed to recruit top North Carolina high school students into the teaching profession by offering financial support, networking, leadership development, and high-quality preparation. Between 1986 and 2011, the program recruited almost 11,000 students into teacher education programs. Fellows taught in every county of the state- including in districts with the highest attrition and vacancy rates.

State funding for the Teaching Fellows program was fully eliminated by the North Carolina General Assembly in 2015, then reinstated in 2017, with modifications. The new program is in place at only five colleges and universities – Elon University, Meredith College, NC State, UNC Chapel Hill, and UNC Charlotte – none of which are located in rural areas, and none of which are HBCUs or MSIs. The current iteration of the Teaching Fellows Program provides merit-based, forgivable loans of up to \$4,125 per semester to students who commit to teaching in North Carolina STEM or special education classrooms.

State lawmakers should increase financial support to expand the Teaching Fellows Program to more universities, specifically to campuses in rural areas, HBCUs, and other minority serving institutions. This would allow the program to reach its full potential of helping to recruit and retain a highly qualified, diverse teacher workforce in districts across the state- especially those with the highest vacancy and attrition rates. The program should also be open to teachers in all subject areas.

3 Increase teacher salaries, make pay more equitable, and provide incentives to teach in rural communities

Statewide, teacher pay has improved over the past decade but still ranks well below the national average. Improving base pay for all teachers is necessary to attract the types of highly skilled teachers our state needs.

Because of inadequate funding for teacher salaries at the state level, school districts with the financial means often opt to use local funds to supplement teacher salaries. Given inequities in property values and thus, in the local funding available to support salary supplements, this creates a disparity between wealthier and poorer districts in their ability to fund higher salaries that help them to attract and retain teachers. As of now, teachers make more money working in high-wealth counties, mainly urban and suburban counties. As a result, even teachers from rural counties with ties to their local school district may feel compelled to work in urban counties in order to receive higher pay. In order to recruit teachers to low-wealth and rural school districts, the state must invest in financial incentives to attract and retain teachers to these counties.

Various financial incentives could help recruit and retain teachers in rural districts. Additional state supplements for teachers who choose to work in rural communities would help to close the gap of county supplemental pay between high-wealth and low-wealth districts. Doing so would enable teachers commit to teaching in a rural district without having to sacrifice a significant increase in yearly salary. Additionally, the state could create a loan-forgiveness program, much like the North Carolina Teaching Fellows program, that forgives loans for teachers who are committed to teaching in low-wealth and rural districts. This would not only make the cost of higher education more affordable, but it would also encourage teachers to spend more time teaching in a rural district, increasing both recruitment and retention.

4 Provide incentives for teachers and their families to live in rural communities

Given that rural areas are geographically isolated, incentives to live in rural communities would also help to attract teachers to these districts. Offering housing assistance to teachers in these communities would provide them with a significantly lower cost of living, which would incentivize more teachers to stay within their local communities and school districts.

5 Adequately fund and strengthen professional learning, leadership, and growth opportunities for educators

Over the past decade, North Carolina has backed off its financial investments in professional development and learning for current teachers, even though we know these tools are critical to the recruitment and retention of high-quality teachers. Rural districts are at an even greater disadvantage because on the whole, they have fewer local dollars to rely on to fill in what the state does not provide for professional development. In addition to investing more dollars to this end at the state level, other promising efforts should include funding college and university partnerships with school districts to offer professional learning opportunities, and creating a professional learning block grant for low-wealth districts and district collaboratives to develop and grow the teacher workforce.



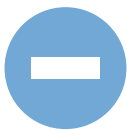
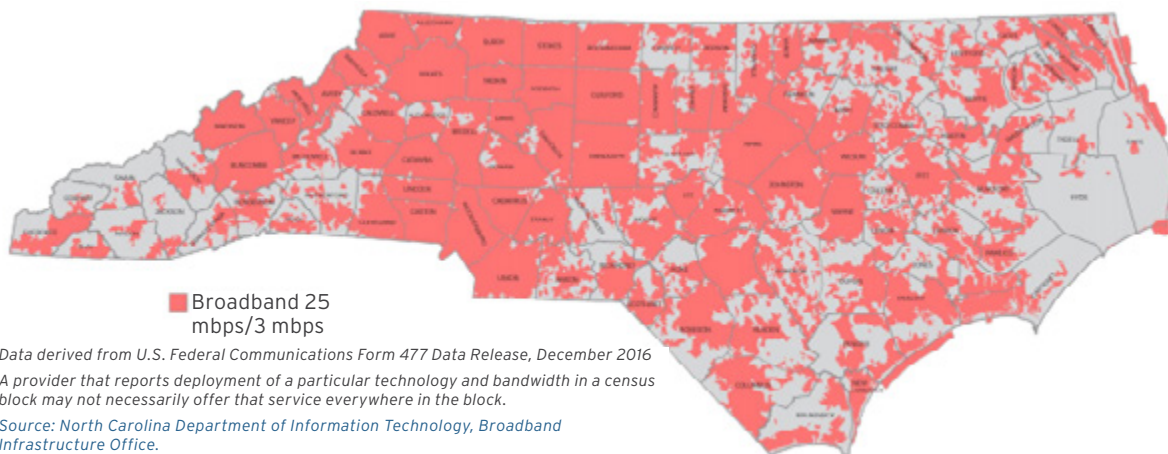
Broadband



The Problem


Broadband, defined as high-speed internet with a download speed of 25 mbps or higher, is a foundational resource for work, school, and life in North Carolina. This is even more true today, as families and educators engage in remote learning efforts in order to mitigate the spread of COVID-19. Broadband infrastructure problems are a challenge for rural parts of the state in particular. Additional barriers facing some households include affordability and digital literacy gaps. Together, these barriers all contribute to North Carolina's relatively low broadband adoption rate of just 59.4 percent.¹⁰

Broadband Availability: Advertised of at Least 25 MBPs Download/3 MBPs Upload



The Barriers

While North Carolina ranks 9th in the United States in broadband deployment, or availability of infrastructure, 89 percent of households that are without broadband access live in sparsely populated areas. Rural areas "generally lack a traditional business case for private sector providers to serve them, and as the last unserved areas in the state, they are likely the hardest and most expensive areas to serve," according to the NC Department of Information Technology.¹¹

 **~40%**
of households across
North Carolina
have access to a wired broadband
internet connection that costs
≤ \$60 per month

¹⁰ North Carolina Broadband Infrastructure Office. Closing the Digital Divide. <https://www.ncbroadband.gov/digital-divide/closing-digital-divide>

¹¹ North Carolina Broadband Infrastructure Office. Connecting North Carolina: State Broadband Plan. <https://www.ncbroadband.gov/reports/connecting-north-carolina-state-broadband-plan/download>

For some households, even if the infrastructure for broadband is in place in their communities, the cost of an internet service plan – as well as affording a device to access the data – is a formidable barrier. Just shy of 40 percent of households across our state have access to a wired broadband connection that costs less than or equal to \$60 per month.¹² In North Carolina, nearly half of all children live in households that are classified as poor or low-income,¹³ making it nearly impossible for their families to choose internet and devices over putting food on the table.

Families without broadband access may also lack digital literacy skills, which comes at a critical time when these skills are needed in homes across the state, nation, and world as students stay home to mitigate the spread of COVID-19 and access their education through virtual platforms. Today, having a high-speed internet connection at home has suddenly become much more relevant to the lives of families, who must access education for their children from home as North Carolinians work to mitigate the impacts of COVID-19. This reality places even greater pressure on finding solutions to these barriers.



Recommendations

1 Provide short-term solutions to broadband access for students and families

At the beginning of this pandemic, the North Carolina Business Committee for Education has served as a convener of many stakeholders across North Carolina to develop critical short-term solutions for schools, educators, and families engaged in remote learning.

Borne out of these efforts is NC Student Connect,¹⁴ a new partnership created to address internet connectivity gaps that are a barrier to remote learning for many North Carolina students. This partnership leverages federal CARES Act funding to provide WiFi hotspots, “park and learn” internet connection sites, and digital literacy training. These efforts are geared toward helping students without broadband access get the support they need now. These are critical short-term solutions to address the immediate needs facing students and families. However, they are not an acceptable substitute for investments that would allow all families to access high speed internet in their homes.

2 Gather better data on broadband access, affordability, and adoption to assess need

To eliminate the digital divide, it's critical to understand where the disconnect lies in order to implement long-term, structural solutions that cover the entire state. The federal data used to inform grantmaking and investing in underserved areas are not very accurate. NC DIT has launched a statewide survey to gather better data that will guide further investments to the state's GREAT Grant Program, inform research and policy recommendations, and support strategic targeting of additional funding streams.

¹² Coble, C. (June 29, 2020). Perspective: The Reality of Broadband in North Carolina. EdNC. <https://www.ednc.org/perspective-the-reality-of-broadband-in-north-carolina/>

¹³ Tucker, W. (January 2019). Child Poverty in North Carolina: The Scope of the Problem. NC Child. <https://ncchild.org/child-poverty-scope/>

¹⁴ Office of NC Governor Roy Cooper. (September 9, 2020). Governor Cooper Announces Nearly \$40 million to Connect Students and Communities to High-Speed Internet, Help Educators With Remote Learning. <https://governor.nc.gov/news/governor-cooper-announces-nearly-40-million-connect-students-and-communities-high-speed>

3 Support the GREAT Grant Program

For largely rural communities that are classified as economically distressed and lack the necessary broadband infrastructure to access high-speed internet, North Carolina's Growing Rural Economies with Access to Technology (GREAT) Grant Program¹⁵ has doled out tens of millions of dollars directly to Internet Service Providers (ISPs) to connect those households to the internet. The state received \$30 million in COVID relief funds for the GREAT Grant Program, but the demand far exceeds that amount. In fact, the NC Broadband Infrastructure Office has received and approved grant applications totaling over \$70 million. The GREAT Grant Program needs quick and significant investments in order to ensure everyone has access to high-speed internet. The program should also contain new provisions that incentivize ISPs to offer more affordable, robust data plans to those in need.

4 Modernize the federal Lifeline Program

Since 1985, the federal Lifeline Program for Low-Income Consumers “has provided a discount on phone service for qualifying low-income consumers to ensure that all Americans have the opportunities and security that phone service brings, including being able to connect to jobs, family and emergency services,”¹⁶ according to the program's website. In 2016, the Federal Communications Commission (FCC) modernized the Lifeline program to include access to broadband, recognizing that in order to participate in today's modern economy, internet access is critical. Modernizing the federal grant program even further could provide another avenue through which broadband access could become more affordable for millions of low-income, rural students and their families.

5 Promote broadband access as an economic development and recruitment effort

According to our partners at the NC Rural Center, there are ample, long-standing funding streams and grant programs on the table that if used collectively, can significantly leverage private companies to invest in rural, last-mile broadband. Local governments can partner with and encourage Internet Service Providers (ISPs) to consider how they can serve their citizens and communities. Many local entities are not familiar with the many resources available to them, and it's important to build local capacity to take advantage of these funding opportunities. Together, we must look at last-mile broadband as any other opportunity to attract businesses that will create jobs and investment in local communities that need broadband access.

¹⁵ NC Department of Information Technology. Great Grant. <https://www.ncbroadband.gov/grants/great-grant>

¹⁶ Federal Communications Commission. (2020). Lifeline Program for Low-Income Consumers. <https://www.fcc.gov/general/lifeline-program-low-income-consumers>



Postsecondary Attainment and Workforce Alignment



The Problem

As technological advancement continues to transform the 21st-century labor market, more and more jobs are requiring candidates to hold postsecondary credentials or degrees. This is true across all industries, including agriculture. Through the work of myFutureNC, the state of North Carolina has set an ambitious goal for 2 million North Carolinians to have a high-quality postsecondary credential or degree by 2030. As of 2018, 1.3 million North Carolina residences hold a postsecondary credential or degree, and without any changes to our current system, this number is expected to reach only 1.7 million by 2030.¹⁷

Communities across NC play a critical role in making this a reality. Rural districts have a significant opportunity to contribute to this goal while also supporting their economies and residents.

While many students in the state go on to attain a postsecondary degree or credential, others may struggle to find the right career pathway. In many locations across the state, students' preparation does not align with the demands of the current and future economy. As a result, not only do these students go on to have difficulty entering the workforce, but employers in rural communities often have trouble filling skilled positions. This divide between skill sets and the job market is perhaps most pronounced in the Science, Technology, Engineering, and Math (STEM) fields where it was projected that 2.4 million jobs were unfilled as of 2018.¹⁸ As automation continues to take over manufacturing jobs, rural communities must adapt to meet the needs of our changing economy. Given the lack of nearby resources, including STEM businesses, along with the gaps in broadband access, rural school districts can face challenges in providing the opportunities necessary to prepare students for the changing job market.

It is important to note, however, that our rural schools and students are, in many ways, doing well despite economic challenges and inequitable access to educational opportunity. Rural districts have a nearly identical graduation rate compared to urban and suburban districts (86 percent compared to 87 percent respectively). Additionally,

The state of North Carolina has set an ambitious goal for 2 million North Carolinians to have a high-quality postsecondary credential or degree by 2030.

¹⁷ myFutureNC. (2020). A Year In Review 2019-2020. <https://www.myfuturenc.org/wp-content/uploads/2020/09/myFutureNC-Progress-Report-to-the-JLEOC-9.1.2020.pdf>

¹⁸ Smithsonian Science Education Center. (2020). <https://ssec.si.edu/stem-imperative>

the average ACT score in North Carolina's 80 rural counties is 17.6, compared to 18.7 in the remaining 20 urban and suburban counties.¹⁹ However, larger gaps exist when looking at postsecondary enrollment and completion rates. Rural students are less likely than their urban and suburban counterparts to enroll in a postsecondary degree program within 12 months after high school graduation, and those who do enroll have lower rates of persistence and are less likely to graduate within six years. Attainment rates are also lower among Black, American Indian, and Hispanic populations.²⁰

Providing all districts, but in particular rural districts, with the necessary resources to prepare students for college and the workforce would have long-term, positive impacts on rural economies overall. Opportunities and resources needed to support students include stronger career pathways; Career and Technical Education; and opportunities to earn credentials, certificates, or dual enrollment credits during high school.

The Barriers

Rural students can sometimes face unique or more significant challenges than their urban and suburban counterparts along the pathway to postsecondary attainment and the workforce, including lack of family financial resources, geographical access, and lack of information about the college application and enrollment process.

More rural children live in poverty than children from urban and suburban counties in North Carolina. The poverty rate in rural parts of the state is 18.3 percent, compared to 12.9 percent in urban areas.²¹ The average median income in North Carolina urban and suburban counties is \$57,702, compared to \$46,439 in rural counties.²² For families with lower levels of income, affording college tuition can be out of reach.

Students in rural communities may also face challenges in understanding and navigating the college application process, as well as applications for financial aid, fee waivers, and the FAFSA. In North Carolina, fewer than 19 percent of students in rural counties have one parent with at least a bachelor's degree, compared to nearly 33 percent of students from urban and suburban counties. Many students from rural districts are or would be first-generation college students and are much less likely to live with an adult who can draw on their own experience to support them in gaining admission and enrolling in college. Rural districts, especially those that enroll more economically disadvantaged students and students of color, may also lack the resources to provide students with access to college counselors who could help provide important guidance in this process.²³

19 Public School Forum of North Carolina. (2020). Roadmap of Need. <https://www.ncforum.org/roadmapofneed/>

20 Tippet, R. and Stanford, J. (2019). North Carolina's Leaky Educational Pipeline & Pathways to 60% Postsecondary Attainment: Report for the John M. Belk Endowment. Carolina Population Center, University of North Carolina at Chapel Hill. [NCedpipeline.org](https://ncedpipeline.org)

21 United States Department of Agriculture Economic Research Service. (2020). State Fact Sheets: North Carolina. <https://data.ers.usda.gov/reports.aspx?StateFIPS=37&StateName=North%20Carolina&ID=17854>

22 Public School Forum of North Carolina. (2020). Roadmap of Need. <https://www.ncforum.org/roadmapofneed/>

23 Friess, S. (June 11, 2019). Rural students often go unnoticed by colleges. Can virtual counseling put them on the map? The Hechinger Report. <https://hechingerreport.org/rural-students-often-go-unnoticed-by-colleges-can-virtual-counseling-put-them-on-the-map/>

Geography can also create obstacles when it comes to accessing college for rural students. For students with limited resources or those who want to stay close to home, the distance to colleges and universities can drastically limit the options available to them.



Recommendations

1

Build and strengthen partnerships across K-12, higher education, and the workforce

In order to increase college and career readiness for rural students, school districts and communities must build mutually beneficial partnerships with one another. In a recent report, Carolina Demography presented data on the educational pipeline in North Carolina, highlighting the various “leaks” along the way. Their report called for the state to improve the following in the process of reaching its postsecondary attainment goal:²⁴

- On-Time High School Graduation
- On-Time Postsecondary Enrollment
- Postsecondary Retention
- On-Time Postsecondary Graduation

The leaky pipeline is a concern across the state of North Carolina, and it is especially prevalent in rural communities with their higher concentration of low-income and first-generation college students. Because students are often lost during major transition points, creating partnerships between K-12 school districts, community colleges, 4-year colleges, and the workforce is necessary to make the process more seamless.

Partnerships can take various forms. Dual-enrollment courses already provide students with the opportunity to take community college classes for credit while still enrolled in high school. Moreover, early college high schools within a community college graduate students in five years with both their high school diploma and associate’s degree.

While these programs provide opportunities on a community college campus, it is important to carry these partnerships over to the K-12 school buildings. Postsecondary institutions and businesses can provide career exploration opportunities in the classroom. With the help of community partnerships, school districts can more easily tie curriculum to careers, enabling students to see a clear transition from the classroom to the workforce. This would be especially helpful for rural students who may not see the connection between college and career if they do not have adults in their lives with college degrees.

²⁴ Tippet, R. and Stanford, J. (2019). North Carolina’s Leaky Educational Pipeline & Pathways to 60% Postsecondary Attainment: Report for the John M. Belk Endowment. Carolina Population Center, University of North Carolina at Chapel Hill. https://ncedpipeline.org/wp-content/uploads/2019/02/NC-Leaky-Pipeline_FINAL.pdf

Promising Model

The Land of Sky Regional Council, which is comprised of cross-sector leaders from Buncombe, Henderson, Madison, and Transylvania counties, established an Educational Attainment and Workforce Collaborative to align educational outcomes with employer needs in the workforce with the ultimate goal of increasing educational attainment and filling the high-skilled and high-paying jobs of the future. The initiative is grounded in data and resources collected across the PreK-12 system, post-secondary institutions, and the workforce, and seeks to build bridges across sectors to promote best practices and align strategies for collective impact.²⁵

2 Implement calendar flexibility to allow districts to align K-12 school calendars with community colleges and four-year institutions

To better facilitate partnerships between school districts and postsecondary opportunities, North Carolina should provide school districts with more flexibility in creating their school calendars to better align with the local community colleges and four-year institutions. Doing so would provide students with better opportunities to participate in dual-enrollment courses, certificate programs, and other career and technical opportunities. Currently, the traditional high school calendar ends the first semester in mid-January, while postsecondary institutions end in December. As a result, students taking dual-enrollment courses must operate on two different calendars simultaneously.

3 Build on and expand Career and College Pathways Programs

Dual enrollment programs allow eligible high school students to take college classes at North Carolina community colleges and universities tuition-free through their high school. Those who successfully complete these courses can earn credit to apply towards their high school diploma as well as their college degrees. North Carolina's Career and College Promise offers three dual enrollment pathways: College Transfer, Career and Technical Education, and Cooperative Innovative High Schools.

College Transfer is available to students who plan to continue education after high school to eventually receive an Associate's or Bachelor's degree through a community college or university. Qualified juniors and seniors can get a jump start on their college coursework, with the option of four pathways – Associate in Arts, Associate in Engineering, Associate in Fine Arts, and Associate in Science.

25 Thomas, E. (May 25, 2020). Connecting the dots that lead to educational attainment and gainful employment. Education NC. <https://www.ednc.org/connecting-the-dots-that-lead-to-educational-attainment-and-gainful-employment/>

26 NC Department of Public Instruction. (2020). Career and College Promise. <https://www.dpi.nc.gov/students-families/enhanced-opportunities/advanced-learning-and-gifted-education/career-and-college-promise>

Career and Technical Education (CTE) is intended to empower all students to become successful citizens, workers, and leaders in a global economy, and can serve as an important step in a pathway toward a successful career. These programs can help students pursuing certification or diploma in a variety of program areas including agriculture, business, computer science, health science, engineering, and more. More than 900,000 students in North Carolina participate in career and technical education programs each year.

Cooperative Innovative High Schools, including early colleges, are small public high schools that are typically located on the campus of a community college or university. Students at these schools work towards completing both a high school diploma and an associate's degree, transferable credit, or a certificate.

Regional partnerships between industries and school districts offer students the opportunity to explore future careers directly through work-based learning opportunities. Work-based learning strategies provide career awareness, career exploration opportunities, career planning activities, and they help students build positive work attitudes and employability skills.²⁷ It is critical that North Carolina expand financial support for these types of partnerships and dual enrollment programs to ensure equitable access to postsecondary opportunity for all students.

4 Ensure all students have access to information about college application and enrollment

Applying for and enrolling in college is a complicated process, and information barriers can prevent students from completing it. If students and their families do not have experience or knowledge of how to apply for and enroll in college, they may miss important deadlines, fail to submit all application or enrollment materials, and misunderstand financial requirements and aid opportunities. Because a higher concentration of rural students are first-generation and low-income college students, they are likely to face information barriers during the college enrollment process. Building stronger partnerships with postsecondary institutions will certainly help to alleviate some of this issue, but targeted approaches are needed to adequately address information barriers.

One of the best ways to equip students with support in applying for and enrolling in college is to connect them with a college counselor. Many schools rely on school counselors to fulfill this job, but these counselors are often overwhelmed with students and other responsibilities. In rural counties, schools have an average of 374 students per counselor.²⁸ Dedicated college counselors can focus on supporting students with their application process as well as informing younger students of their college options and financial aid opportunities.

²⁷ NC Department of Public Instruction. (2020). Career Planning and Placement. <https://www.dpi.nc.gov/districts-schools/classroom-resources/career-and-technical-education/career-planning-and-placement>

²⁸ Tippet, R. and Stanford, J. (2019). North Carolina's Leaky Educational Pipeline & Pathways to 60% Postsecondary Attainment: Report for the John M. Belk Endowment. Carolina Population Center, University of North Carolina at Chapel Hill. [NCedpipeline.org](https://www.ncpopulationcenter.org/leaky-pipeline)

Promising Model

The Carolina College Advising Corps recruits recent college graduates to support low-income and first-generation college students in the process of applying for and enrolling in college. In the 2019-2020 academic year, they had advisors in 30 North Carolina counties, 23 of which were rural. Among high school seniors participating in the program, 86 percent met with an advisor, 70 percent submitted at least one college application, and 53 percent completed the FAFSA by June 18th. Collectively, students served by the College Advising Corps received over \$145 million in scholarships and financial aid.²

5 Expand access, adoption, and affordability of broadband

As noted in the previous section, expanding broadband access in rural communities is a vital step in ensuring that students are college and career ready. Having access to the internet at home and in the community enables students to complete their homework, prepare for their classes, utilize online learning resources, and access resources for college readiness such as ACT and SAT preparation materials. Additionally, while rural school districts may not have the resources to provide advanced courses, foreign language programs, and STEM opportunities, students with reliable internet access can enroll in online high school classes or dual-enrollment courses, which can provide them the opportunity to explore new fields and prepare for college and careers.

Importantly, North Carolina already has the infrastructure in place to support online learning, including the North Carolina Virtual Public School and the North Carolina School of Science and Mathematics online program- but for students in rural districts without reliable broadband access, these opportunities are not a viable solution.

²⁹ Carolina College Advising Corps. (2020). <https://carolinacollegeadvisingcorps.unc.edu/>



School Funding



The Problem

Many of the recommendations discussed in previous sections of this report cannot be accomplished without increased financial investment in public education. As required by North Carolina's state constitution, as well as the School Machinery Acts of 1931 and 1933, the state government – rather than local districts – bears the primary responsibility of providing all students with access to a free, uniform system of public education. The 1997 and 2004 North Carolina Supreme Court rulings in the *Leandro* case reaffirmed the responsibility of the state to provide the resources necessary to ensure that all children have the opportunity to receive a sound basic education. However, substantial research, including an extensive 2019 report by court-appointed independent consultants, WestEd, has demonstrated that the state has not provided the basic level of funding needed to meet its constitutional obligation for a sound basic education.

Research has clearly shown that adequate and equitable school funding is critical to providing students with the resources needed to succeed academically, including, but not limited to highly effective teachers and school leaders, whole child supports, and early learning opportunities. Increased investments in education is tied to improvements in educational opportunities and student outcomes. One study found that increasing per-pupil spending by 10 percent for each year of public schooling led to significant increases in educational attainment, higher wages, and reductions in adult poverty rates, especially for children from low-income families.³⁰ Additional studies have found that improvements in funding adequacy and equity are associated with substantial increases in student achievement³¹ and intergenerational social mobility.³² Overall, investments in strategies to increase students' educational attainment are tied to greater economic growth, which is likely to result in substantial net benefits for taxpayers, even if they do not have children in public schools.³³

For far too long, students across the state- especially those in low-wealth schools and communities, the majority of which are in rural areas, have been denied access to the most basic resources and support necessary to receive a quality education. This is a disservice to them and the wellbeing of the state overall.

30 Jackson, C. K., Johnson, R. C., & Persico, C. (2016). The effects of school spending on educational and economic outcomes: Evidence from school finance reforms. *The Quarterly Journal of Economics*, 131(1), 157-218.

31 Lafortune, J., Rothstein, J., & Schanzenbach, D. W. (2018). School finance reform and the distribution of student achievement. *American Economic Journal: Applied Economics*, 10(2), 1-26.

32 Biasi, B. (2019). *School Finance Equalization Increases Intergenerational Mobility: Evidence from a Simulated-Instruments Approach*. Cambridge, MA: National Bureau of Economic Research.

33 Carroll, S. J., & Erkut, E. (2009). How taxpayers benefit when students attain higher levels of education. Santa Monica, CA: Rand Corporation; Belfield, C. R., and Henry M. Levin, eds. *The price we pay: Economic and social consequences of inadequate education*. Brookings Institution Press, 2007.

The Barriers

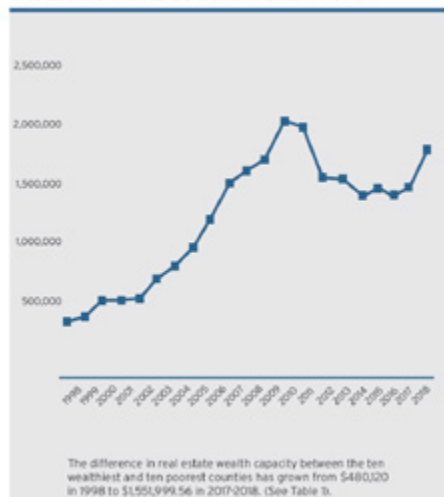
Inadequate state funding is the most significant barrier to providing the resources necessary for all students, including those in rural districts, to receive a sound basic education. As compared with other states, North Carolina ranks very near the bottom in education spending. In 2019, North Carolina ranked 48th in the nation on per-pupil spending after adjusting for regional cost differences.³⁴ When adjusted for inflation, per-pupil spending in North Carolina has declined by about 6 percent since 2009-10.³⁵ Perhaps most notably, North Carolina ranked 48th in the country for spending effort, which is the amount of funding for education relative to the available funds overall.³⁶

When adjusted for inflation, per-pupil spending in North Carolina has declined by about 6 percent since 2009-10.³⁵

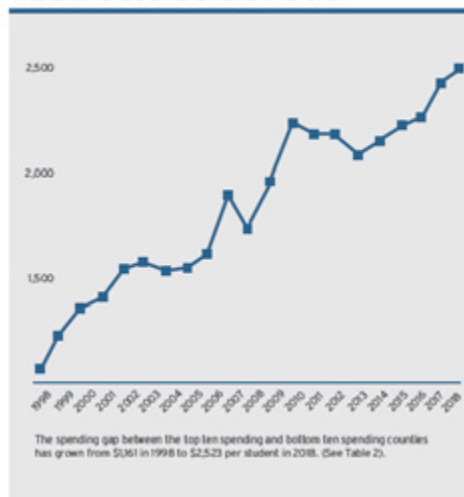
As a result of inadequate state funding, local school districts have been forced to take on an increasing role in funding instructional expenses – which proves more challenging for some school districts than others. For the past 30 years, the Forum's Local School Finance Study has demonstrated that there is a large and growing real estate wealth gap across the state, resulting in a gap in the capacity of low and higher wealth counties to provide the local funds needed to supplement public school dollars from the state.³⁷

Because local property taxes are the primary source of revenue for county governments, many of our state's rural districts with lower average property values struggle to generate local funds for public education. The Forum's most recent Local School Finance Study found that the ten poorest counties in the state taxed themselves at nearly twice the rate of the ten wealthiest counties in an attempt to adequately fund their schools, there was still an average gap of over \$2,500 in spending per student between the highest and lowest spending counties in the state.

WIDENING REAL ESTATE WEALTH GAP



WIDENING LOCAL SPENDING GAP



Source: Public School Forum of North Carolina. (2020). Local School Finance Study. <https://www.ncforum.org/2020-local-school-finance-study/>

34 Education Week. (2019). Quality Counts 2019: Grading the States. <https://www.edweek.org/ew/articles/2019/01/16/highlights-report-north-carolina.html>

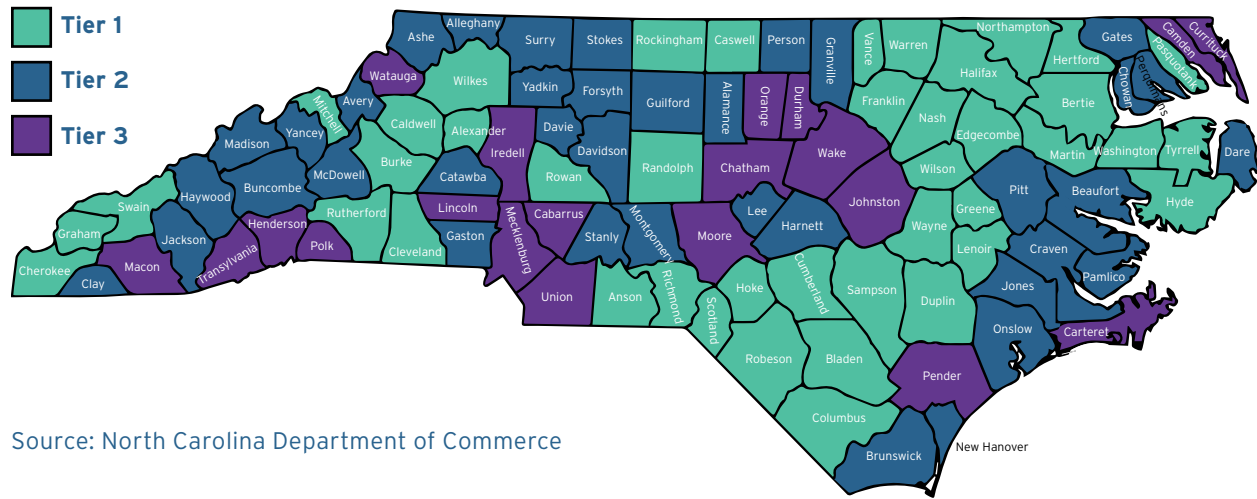
35 WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). Sound Basic Education for All: An Action Plan for North Carolina. San Francisco, CA: WestEd.

36 Farrie, D., Kim, R., & Sciarra, D.G. (2019). Making the Grade 2019: How Fair is School Funding in Your State? Newark, NJ: Education Law Center.

37 Public School Forum of North Carolina. (2020). Local School Finance Study. <https://www.ncforum.org/2020-local-school-finance-study/>

Over three-quarters of North Carolina's rural counties are considered to be low-wealth based on the formula used by the NC Department of Public Instruction, which takes into account the county's anticipated total revenue as a percentage of the state average, the county's tax base per square mile as a percentage of the state average, and the county's average per capita income as a percentage of the state average.³⁸ Similarly, out of 40 counties in North Carolina that are classified by the NC Department of Commerce as "Tier 1" due to their high level of economic distress, all but two are rural counties.³⁹

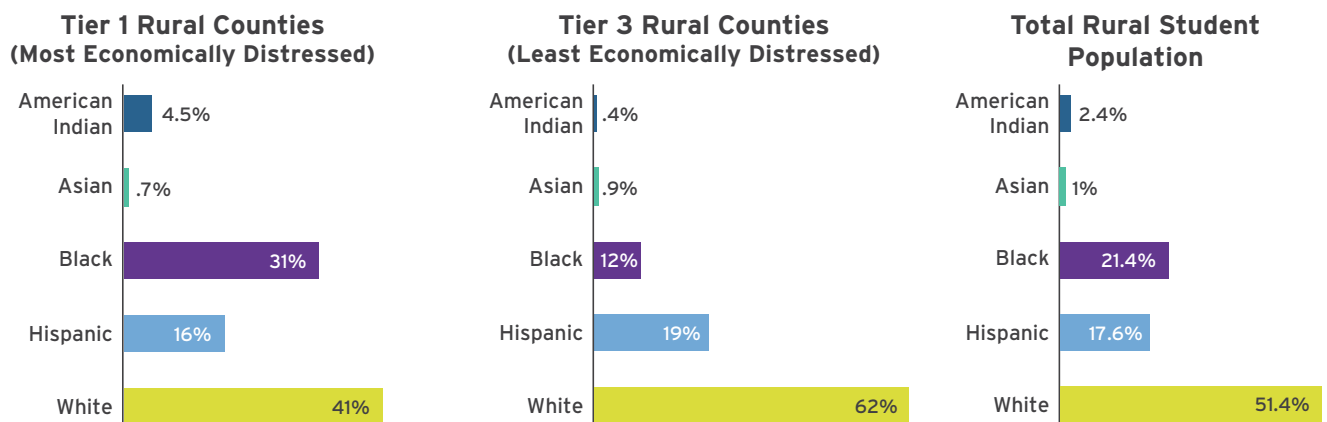
North Carolina County Distress Rankings (Tiers)



Source: North Carolina Department of Commerce

However, not all rural communities are the same. While the majority of Tier 1 counties are rural, some rural counties are among the wealthiest in the state. Mirroring broader patterns of segregation and inequality in society overall, student enrollment by race looks quite different in Tier 1 versus Tier 3 counties – American Indian and Black students are overrepresented in North Carolina's poorest rural counties, and White students are overrepresented in wealthier ones.

Racial Demographics of NC Students in Rural Counties by Tier



Data Sources: NC Commerce; NC Department of Public Instruction.

³⁸ North Carolina Department of Public Instruction. Low Wealth Ranking. <https://www.dpi.nc.gov/documents/fbs/allotments/support/low-wealth-ranking>

³⁹ North Carolina Department of Commerce. County Distress Rankings (Tiers). <https://www.nccommerce.com/grants-incentives/county-distress-rankings-tiers>. Tiers are determined based on county rankings in average unemployment rates, median household income, percent growth in population, and adjusted property tax base per capita. The 40 most distressed counties are designated as Tier 1, the next 40 as Tier 2, and the 20 least distressed as Tier 3.

It has been well-documented that high-poverty schools and schools serving higher proportions of students of color are far less likely to have access to well-qualified teachers and principals, challenging curriculum, and other resources essential to a sound basic education.⁴⁰ Thus, the economic inequities that define our urban-suburban-rural divides, as well as disparities across rural communities, are interconnected with deep racial inequities that result in disparate educational opportunities across racial and socioeconomic lines.



Recommendations

1 Provide adequate state funding for all school districts

In September 2020, Judge David Lee signed a consent order to adopt the [Fiscal Year 2021 Action Plan for North Carolina](#), which was filed and agreed upon by all parties to the *Leandro* case. This action plan details the initial steps in what will eventually be an eight-year plan outlining necessary actions for the state to meet its constitutional obligation to provide a sound basic education to every child in North Carolina.

When the 2021 long session convenes, the General Assembly should move swiftly to implement the items outlined in the Fiscal Year 2021 action plan, which will require an additional state investment of \$426,990,610.⁴¹ This includes funding for additional instructional support personnel such as school counselors, nurses, social workers, and psychologists, expansion of the NC Pre-K program, average salary increases of 5 percent for teacher and support staff, among many other important items that will help to meet the needs of students across the state, including those in rural, low-wealth districts who have been consistently denied access to necessary educational resources and opportunity.

In light of the COVID-19 pandemic, we are likely to see calls for budget cuts rather than the additional investments ordered by the court. However, decreasing our investment in North Carolina's most vulnerable students and schools during a time of hardship is not the solution. Our schools have yet to recover from the budget cuts of the Great Recession, and our children cannot afford to endure further cuts during a global pandemic that requires stronger investments to spur intensive innovation.

2 Target increased state funding to students and schools with the greatest need

Another key component of the Fiscal Year 2021 Action plan is a proposed revision of the school funding formula, which would allocate additional funding towards students with the highest levels of need – including disadvantaged students. Lawmakers should also increase the allotment for low-wealth supplemental funding for the lowest wealth counties in the state – such as Robeson, Greene, Hoke, and Columbus. This

40 WestEd, Learning Policy Institute, & Friday Institute for Educational Innovation at North Carolina State University (2019). Sound Basic Education for All: An Action Plan for North Carolina. San Francisco, CA: WestEd.

41 *Leandro v. State*. (June 15, 2020). Joint Report to the Court on Sound Basic Education for All: Fiscal Year 2021 Action Plan for North Carolina.

funding would provide much-needed investment in our state's rural schools, which disproportionately enroll students living in poverty.

3 Allow local school districts the flexibility to use state funds to meet their unique needs

North Carolina uses a resource allocation model, which provides funding to local school district through various allotments such as position allotments for classroom teachers and instructional support staff; categorical allotments for transportation, teaching assistants, and supplies; and supplemental funds for students with disabilities. Many of the allotment categories are still funded below pre-recession levels. Districts were previously able to move funding from one allotment to another as budgeting needs arose. However, recent legislation has imposed new restrictions on the flexibility afforded to districts to use education funding from the state to meet their specific needs. This has only added to financial challenges facing North Carolina's school districts. The General Assembly should remove these restrictions immediately to allow districts to exercise their local judgment to allocate resources where they are most needed. This flexibility is even more critical in light of the COVID-19 pandemic.

4 Address the impact of COVID-19 on school district budgets

The full impact of the COVID-19 pandemic on North Carolina public schools remains to be seen, and the budget impact will likely be felt for years to come. When the pandemic closed school buildings in March 2020, districts were faced with a variety of increased costs – devices for remote learning, personal protective equipment, cleaning supplies, substitute teachers, and additional transportation costs – especially in rural areas. COVID relief funds have provided some support to districts struggling under the weight of these increased costs. However, these funds are only temporary, and more funding will be necessary to meet increased needs that will persist for the foreseeable future.

It is clear that our state's most vulnerable families and communities are most likely to be negatively impacted by the pandemic due to rising unemployment levels, lack of access to health care, food insecurity, and because they are less likely to have access to high-speed internet. COVID relief funds alone cannot address these broader resource inequities that have only become more consequential in light of the pandemic. Our state's rural, low-wealth school districts – particularly those serving high proportions of students of color – will face even greater challenges in stretching limited resources to meet their students' needs. Thus, the urgency for the state to invest more in critical areas like additional instructional support personnel, early childhood education, teacher retention, and virtual learning, is greater than ever.

Conclusion

Study Group XVII tackled the urgent task of identifying scalable best practices and policy recommendations to better serve our rural students and schools. Of all the things we learned throughout the process of traveling the state and engaging in discussion with leaders on the ground, the biggest takeaway is that our rural schools, educators, and students are strong, innovative, and deeply committed to high-quality education. While North Carolina's rural communities have been faced with population loss, economic decline, and high levels of poverty in recent decades, students can and do succeed with the proper supports in place- including effective teachers and school leaders, adequately funded schools with rich and challenging curricula, broadband internet access, and strong pipelines to postsecondary attainment and the workforce. We encourage our state leaders to take action to provide our rural students with the equitable access to the educational opportunities that they need, and deserve.

The Burroughs Wellcome Fund and the Gates Foundation provided support for Study Group XVII. The Public School Forum thanks our Study Group XVII co-chairs, presenters, and participants for their engagement and guidance in developing these recommendations.

Appendix I

Study Group XVII Presenters

Raleigh, October 30, 2019

Alan Richard, Board Member, Rural School and Community Trust

Patrick Woodie, President, NC Rural Center

Rutherford County, November 25, 2019

Representative Kevin Corbin, NC House District 120

Walter Dalton, President, Isothermal Community College

Dr. Janet Mason, Town Manager, Forest City

Mark Sale, Superintendent, Swain County Schools

Edgecombe County, November 25, 2019

Dr. Valerie Bridges, Superintendent, Edgecombe County Schools

Evelyn Bulluck, Board of Education, Nash-Rocky Mount Schools

Michael Jordan, Vice President of Student Services, Edgecombe Community College

Senator Erica D. Smith, NC Senate District 3

Robeson County, December 17, 2019

Dr. Ron Hargrave, Superintendent, Scotland County Schools

Dr. Olivia Oxendine, Associate Professor, UNC Pembroke; Member, State Board of Education

Dr. Jim Simeon, Executive Director, Sandhills Regional Education Consortium

Dr. Robert Taylor, Superintendent, Bladen County Schools

Dr. Shanita Wooten, Superintendent, Robeson County Schools

Raleigh, January 21, 2020

Dr. Eric Houck, Associate Professor, UNC School of Education

Kathy Bradley, Partnership Teach Coordinator, ECU

Dr. Vivian Covington, Assistant Dean of Undergraduate Affairs & Educator Preparation, ECU

Dr. Patricia Pfeiffer, Vice President of Academic and Student Services, Wayne Community College

Raleigh, March 4, 2020

Dr. Jeni Corn, myFutureNC

Dr. Rebecca Tippet, Carolina Demography

Dr. Michael Dempsey, Lenoir-Rhyne University Asheville

Dr. Joseph Fox, Land of Sky Education Collaborative

Dr. Jeff McDaris, Transylvania County Schools

Nathan Ramsey, Land of Sky Regional Council

Angela Bailey, Broadband Infrastructure Office, NC DIT

Amy Huffman, Broadband Infrastructure Office, NC DIT

Appendix 2

Counties Represented Among Study Group XVII Participants

Alamance	Edgecombe	Pasquotank
Alexander	Forsyth	Person
Anson	Franklin	Pitt
Avery	Guilford	Polk
Beaufort	Harnett	Randolph
Bladen	Haywood	Richmond
Brunswick	Henderson	Robeson
Buncombe	Hoke	Rockingham
Burke	Jackson	Rowan
Cabarrus	Johnston	Rutherford
Caldwell	Madison	Sampson
Carteret	McDowell	Scotland
Caswell	Mecklenburg	Transylvania
Catawba	Montgomery	Wake
Chatham	Moore	Warren
Clay	Nash	Watauga
Columbus	New Hanover	Wayne
Cumberland	Northampton	Wilkes
Currituck	Onslow	
Durham	Orange	