HOLSHOUSER
LEGISLATORS RETREAT

THE COST AND ECONOMIC IMPACT OF HIGH-QUALITY EARLY LEARNING

Access to quality care is a critical issue facing families and communities across North Carolina. There are currently 708,818 children ages five and under, with about 63 percent of these children having all available parents in the workforce. This translates into 446,555 children in need of child care. The state has 362,228 licensed child care facility spots available, leaving more than 84,000 children, or 19 percent, without access to licensed childcare. This child care gap has a substantial impact.

Economic Impact

The child care crisis not only affects families but also poses a significant economic burden at both national and state levels. According to a 2023 Ready Nation Report, the national economy loses $122 billion annually due to the shortage of child care access and affordability. This is inclusive of lost earnings, revenue, and productivity. When parents are unable to access or afford available child care, they may choose to leave the workforce or reduce their hours of availability. This leads to lower income for families and less productivity for businesses. Nationally, families lose $78 billion in income while businesses lose $23 billion related to employee turnover. This further exacerbates a loss of $21 billion in taxes on income and goods. In June 2024, the North Carolina Chamber reported a 5.65 billion dollar loss to North Carolina's economy due to lack of child care.

Factors Contributing to Child Care Gap

Early Educator Compensation

Early childhood educators are often called the "workforce behind the workforce". They allow parents to remain gainfully employed while supporting early development of the future workforce. Despite the importance of quality care and education, early educators are compensated at about $13.99 per hour on average in North Carolina, making them one of the lowest paid professions in the state (the average living wage for an individual in the state is $21.56). Recent state data point to an attrition rate of 39 percent, which jeopardizes continuity of care for young children. As of 2022, an estimated 56,500 child care professionals are employed in this critical sector, but the current levels of child care compensation may adversely affect staffing and retention, widening child care gaps.

True Cost of Care

The true cost of providing early childhood education is much higher than what providers are charging. Table 1 illustrates the cost model of providing care. The costs that programs incur however are not offset by tuition because providing centers and homes must charge lower tuition amounts to offer affordability to families. However, even with their lower rates of tuition, programs cannot charge truly affordable rates (less than 7 percent of a family's income) as they need the revenue to continue to operate their programs. Therefore, access to child care is impacted by the cost models underlying the

Figure 1: The Workforce Behind the Workforce

Early Educator Workforce

Present Workforce

Future Workforce

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child care sector. The imbalance between costs and revenues is a threat to the survival and growth of child care settings in North Carolina and across the nation, which can cause the child care gap to remain stagnant or widen.

Table 1: Program Level Cost Modeling

Costs	Revenue Streams
▪ Space (rent)	▪ Tuition and fees by age group for enrolled children (size of business)
▪ Safety and Health Requirements	▪ Subsidies
▪ Educational Materials	▪ Other public funding (e.g., food program)
▪ Salaries	▪ Business partnerships
▪ Benefits	▪ Donations
▪ Professional Learning Opportunities	▪ Grants
▪ Administrative Costs	

Source

Policy Considerations

▪ How can North Carolina establish more partnerships with philanthropic and business organizations to create braided funding streams that supplement child care revenue, enabling child care owners to offer competitive wages that reduce employee attrition and increase the number of child care spaces?

▪ How can both North Carolina and its districts best leverage federal funding for education for privately owned programs?

▪ How can North Carolina better support its early educators with higher compensation, benefits, and job security?

THE IMPACT OF EARLY LEARNING ON LIFELONG SUCCESS

Optimal Early Development

Early learning plays a vital role in childrens development and success. In North Carolina, 63 percent of children under age five have their parents in the workforce, making early care and education programs essential spaces for children to grow and develop outside the home. High quality child care can ensure the consistent exposure to language-rich environments that are essential for young children to develop robust networks of neural connectivity that are the predictors of their academic and life success for decades to come. Such development happens through optimal conditions for early development. This development positively influences the trajectory of children's school and life outcomes. Vision, hearing, language, and higher cognitive development occur sequentially, with 90 percent of brain development happening from birth to five.
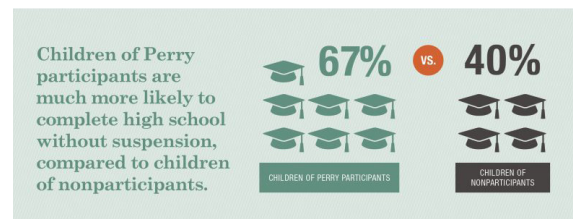

Figure 2: Human Brain Development
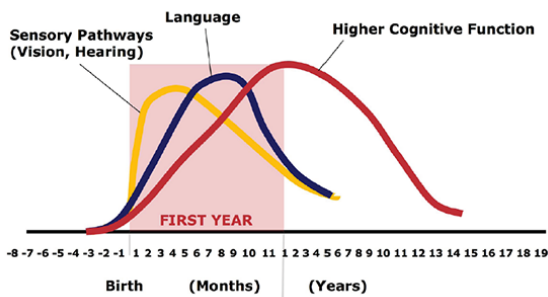
Source

Return on Investment of Optimal Early Development

The absence of stimulating early experiences can have adverse results. Disparities in cognitive development, health, and social-emotional development are evident at nine months and increase by 24 months. Through a longitudinal study of the Perry Preschool Project, the Heckman Equation, demonstrates how early childhood

investment can minimize adverse childhood experiences, contribute to positive development, and enhance the potential of an individual to contribute positively to their families, societies, and the economy. The Perry Preschool, a high-quality program for three-through-five-year-olds developed in Michigan in the 1960s, showed a return on society of between about $7 and $12 for each $1 invested. The greatest return on investment with programs supporting early development.

Figure 3: Perry Preschool: Intergenerational Effects

Children of Perry participants are much more likely to complete high school without suspension, compared to children of nonparticipants. 67% vs. 40%

CHILDREN OF PERRY PARTICIPANTS — CHILDREN OF NONPARTICIPANTS

Source

In addition to the Perry Preschool Project, The Carolina Abecedarian Project, entering its fiftieth year, also shows that savings from investing early are reaped across education and social service systems in the form of reductions in grade retention, special education, welfare supports and incarceration as well as increases in employment, and taxpaying ability. According to The Center for High Impact Philanthropy, quality early childhood programs can yield a $4–$9 return per $1 invested. The First Five Years Fund summarizes the lifelong gains of early education as reducing opportunity gaps, and improving graduation rates, economic stability, health outcomes, and parenting practices.

In October 2024, a working paper on the NC Pre-K Effect was published through a study at Duke University. The study shows that children in North Carolina receiving state public pre-k services who attend lower academically performing elementary and middle schools show a greater gain than children who did not. This study again shows how high quality early childhood education sets children up for lifelong success.

Policy Considerations

- How can North Carolina utilize state and federal funding, or public-private partnerships, to expand NC Pre-K to all four-year-olds?

- How can North Carolina support additional research to investigate the long-term impacts of high-quality early learning?

- What opportunities exist to stabilize the child care and education sector, furthering optimal early development?

PROFESSIONAL PERSPECTIVES | THE STATE OF EDUCATION IN WESTERN NORTH CAROLINA

Hurricane Helene struck Western North Carolina in late September 2024, leaving at least 100 people dead and many more still missing. The hurricane affected over 1,000 K-12 schools, 23 community colleges, seven UNC institutions, and seven private higher education institutions, with many schools destroyed or suppering damage. The hurricane affected 39 counties and 40 percent of the state's population. Even schools that were not directly affected were forced to close because of road and water system destruction. Based on a preliminary needs assessment, the estimated economic impact of the storm on education is around $844 million. These education institutions are managing operational concerns such as water damage to buildings and supplies, safety hazards from structural damage, and interrupted operations.

Impact of Hurricane Helene on Early Learning

Child care in North Carolina was in a precarious position prior to Helene. Still reeling from COVID-19, providers face financial constraints due to the loss of American Rescue Plan Act (ARPA) funds which were used to sustain the workforce during the pandemic. According to the Division of Child Development and Early Education, there are more than 200 children centers impacted and 55 were destroyed as a result of Hurricane Helene. Some facilities were re-housed in other learning spaces. In Burke County, two of the largest childcare centers were able to acquire classrooms for 170 children through Burke County Public Schools. Additionally, three- and four-year olds were dispersed between Salem Elementary and Oak Hill Elementary through a collaboration with Burke County Smart Start. According to the Office of State Budget and Management (OSBM), private insurance, Small Business Association (SBA) Disaster Loans, and FEMA are expected to cover 65 percent

of damages. However, the remaining cost will be borne by the child care owners, leaving an estimated $12 million in damages uncovered by insurance.

Impact of Hurricane Helene on K-12 Education

K-12 students in Western NC lost approximately one month of school due to the hurricane. Researchers predict disruptions and trauma to have a multi-year impact on students' academic progress. Research indicates that such interruptions have worse effects on students from low-income backgrounds — a significant finding, given that poverty has been a longstanding issue in the region. Poverty levels in the area range between 19 to 30 percent of residents, depending on the county. The North Carolina Department of Public Instruction (NCDPI) anticipates that 60 percent of students will need to participate in summer learning programs because of lost instructional time. Although Helene's academic effects are yet to be seen, research shows that hurricanes have a negative impact on learning. For example, after Hurricane Florence, teachers reported 55 percent of students regressed academically. Currently, schools are working on school and phone repairs, supporting students with trauma, and redrawing bus routes to adapt to new challenges.

Impact of Hurricane Helene on Higher Education

Hurricane Helene affected over 300,000 students from community colleges, UNC institutions, and independent colleges and universities. Like other schools, colleges and universities facing closures, damage, and struggles in providing utilities. Despite this, they are making their best effort to meet instruction requirements, accreditation standards, and finish the semester. Students have also had to bear additional costs of escaping home and other expenses, leading to equity problems.

Policy Considerations

- ▪ How can policymakers ensure resources are equitably distributed considering all communities in the area are experiencing severe levels of need?

- ▪ What waivers may need to be created or granted for education institutions to accommodate missed school days and/or to provide flexibility regarding scheduled assessments?

ARTIFICIAL INTELLIGENCE AND WORKFORCE READINESS

Artificial Intelligence (AI) is a branch of computer science that uses data such as numbers, words, images, and internet traffic to train smart machines to make decisions and perform specific tasks. In K-12 education, AI may offer transformative solutions to equip students with future-ready skills by enabling educators to tailor learning experiences to individual student needs, providing real-time feedback, and automating administrative tasks. In higher education, AI can offer personalized learning experiences and enhance research capabilities. However, classroom integration of AI must address ethical considerations, equity in access, and the development of digital literacy skills for both students and teachers.

Current State of Artificial Intelligence in K-12 Education

AI's current application in classrooms ranges from AI-powered educational games to adaptive learning systems and analytics that can predict student learning patterns and outcomes. These tools could enhance student engagement and achievement by identifying students' unique educational needs and supporting differentiation, especially for students with learning differences.

AI-powered formative assessment tools can provide real-time, constructive feedback to help students understand their mistakes leading to increased learning and retention. Through student performance data analysis, AI can assist teachers in identifying students who could benefit from additional support and can suggest targeted intervention strategies earlier than traditional methods.

The North Carolina Department of Public Instruction (DPI) supports teachers in integrating artificial intelligence (AI) into classroom practices to enhance student outcomes. DPI collaborated with AI for Education to establish an ethical AI implementation plan called EVERY.

- Evaluate the initial AI output to ensure it aligns with intended purposes and requirements.
- Verify facts and data from reliable sources to eliminate biases or inaccuracies.
- Edit prompts and ask follow-up questions to refine AI-generated content.
- Revise results to match individual needs, style, and tone, considering AI output as a starting point, rather than a final product.
- You remain accountable for all content created with AI, advocating transparency in its usage and impact.

North Carolina became the fourth state in the nation to adopt AI guidelines as part of the state standards released by DPI. Despite varying levels of adoption across districts, DPI's guidance provides definitions of AI literacy and outlines tools and resources to support districts in professional development.

Current State of Artificial Intelligence in Higher Education

The rapid advancement of AI is significantly impacting higher education, offering both transformative opportunities and complex challenges. Artificial intelligence is increasingly integrated into administrative processes, teaching, and learning environments. Universities and colleges are leveraging AI tools to streamline admissions, personalize student learning experiences, and enhance retention efforts. Adaptive learning platforms use AI algorithms to tailor course content to individual student needs, fostering more effective and efficient learning. Chatbots and virtual assistants have also become prevalent, providing 24/7 support for tasks like answering student queries, helping with course selection, and offering mental health resources.

Despite its promise, many institutions are struggling to prepare for the rapid rise of AI. A survey by *Inside Higher Ed* revealed that only nine percent of campus technology leaders feel their institutions

are adequately prepared for AI, with concerns about academic integrity, data privacy, and ethical implications hindering broader adoption. However, as highlighted by Deloitte, generative AI offers transformative potential, such as AI-based tutoring systems that can provide step-by-step, personalized learning experiences to enhance engagement and outcomes. To fully harness these advancements, institutions must invest strategically, develop robust policies, and address ethical concerns such as equitable access and algorithmic bias.

Moreover, the rapid proliferation of AI tools like ChatGPT has raised concerns about academic integrity, as these tools can generate human-like text, potentially facilitating plagiarism and challenging traditional assessment methods. Institutions are grappling with the need to update academic policies and develop detection mechanisms to uphold standards of honesty and originality in student work.

Best Practices in AI in K-12 Education

Embracing AI in K-12 classrooms offers an opportunity to transform learning experiences into interactive, engaging, and individualized lessons that promote students self-efficacy and achievement. AI can foster innovation, laying the groundwork for students to navigate an increasingly technologically advanced society. The integration of AI in education presents the opportunity to develop new student-centered educational models, such as problem-based learning, where AI can support student learning through guidance and resources to enhance learning experiences. While AI does offer the potential to transform K-12 education, it is important to recognize that not all schools have the resources or trained personnel to integrate the technology at the classroom level, potentially resulting in a digital divide and educational inequities.

In addition to North Carolina, Ohio, Virginia, and 19 other states have released guidance regarding AI. Ohio launched a five-part AI Toolkit, developed in collaboration with the nonprofit AI Education

Project, which includes guidelines that educators can use to create policies tailored to their communities. The toolkit also provides policies and resources for parents, policymakers, and educators, such as classroom warm-ups, examples of use cases of generative AI tools to explore, and exercises designed to give students a basic understanding of AI. Some school districts have partnered with Khan Academy's platform which utilizes large language models to provide personalized tutoring experiences and fill learning gaps for students effectively. AI technologies embedded within Khan Academy's ecosystem offer various benefits, including high-impact tutoring, accessibility enhancements for students with disabilities, and significant time savings for teachers.

Best Practices in AI in Higher Education

Implementing AI in higher education requires strategic integration, ethical considerations, and comprehensive training for all stakeholders. Institutions like Arizona State University and the University of Michigan offer AI literacy courses to faculty, staff, and students, fostering a campus-wide understanding of AI's capabilities and limitations. Texas A&M University provides sessions where faculty can explore various AI tools, assessing their benefits and shortcomings. However, a survey by Inside Higher Ed revealed that only 20 percent of institutions have established AI policies, though 63 percent are developing them. To address academic integrity concerns, some educators involve students in creating AI usage guidelines, promoting ethical engagement with technology. By prioritizing transparency, data privacy, and equity, and by engaging the academic community in policy development, higher education institutions can responsibly harness AI's potential to enhance teaching, learning, and administration.

Policy Considerations

- How can policymakers ensure that AI educational tools are accessible across diverse socioeconomic and geographic student populations?

- What data governance policies need to be developed to protect student privacy and prevent predictive analytics from negatively influencing educational outcomes?

- How can North Carolina develop and fund professional development programs to train educators on effectively implementing AI technology in their pedagogy?

REIMAGINING EDUCATION FUNDING

Funding of the nation's schools constitutes a critical component of this country's education system, shaping the quality and accessibility of education for millions of students. This funding encompasses various resources allowed by federal, state, and local governments to support the maintenance and operation of public schools, including instructional materials, infrastructure costs, personal salaries, and extracurricular activities. North Carolina has a fundamental, constitutional duty to ensure that all students have the right to the privilege of education through proper funding and resource allocation methods. Research suggests that every $1,000 of increased funding per pupil results in a grade-level improvement in both math and reading achievement. For the 2022–2023 school year, North Carolina schools generated an average of $16,281 in revenue per student. For the same year, per pupil expenditure in North Carolina averaged $13,173. North Carolina consistently ranks amongst the bottom 10 states in per pupil expenditure.

There are numerous funding models that different states use as formulas for funding their public K-12 schools. State funding typically follows one of three main formulas or combines elements from multiple formulas into hybrid formula.

- Student-Based: Identifies a base allotment for an average student and multiplies this cost by district enrollment figures. States may adjust for additional costs of educating specific categories of students based on need. This is the most common formula design, as 40 states use this type or this type in combination with another approach.

- Resource-Based: Determines the cost of education expenses by factoring the cost of resources needed, such as staff or curriculum materials. States may adjust additional costs to districts for specific student categories with flat, per-student dollar amounts.
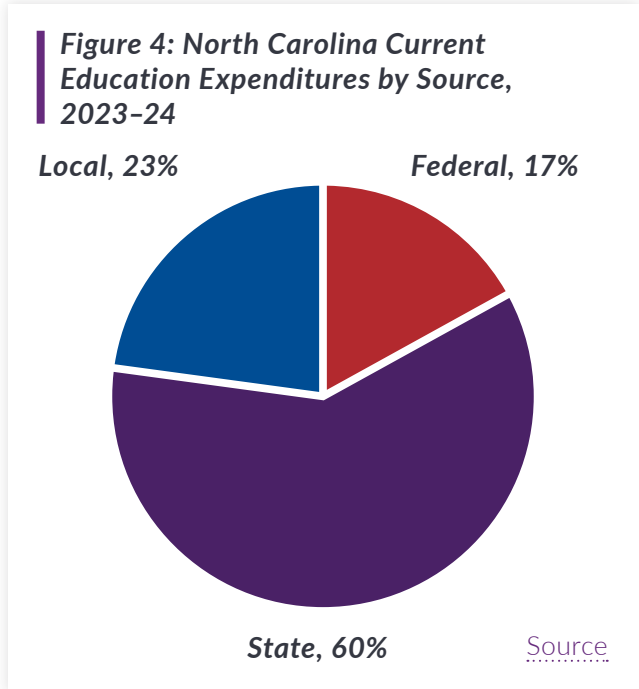
■ Guaranteed Tax-Base: Funding levels are determined by a formula that equalizes the taxes paid on the base amount of property within the district. The state provides higher levels of funding to lower property-wealth districts than higher property-wealthy districts.

■ Hybrid Model: Hybrid models often combine aspects of student-based foundation models, resource-based allocation models, and various cost factors.

North Carolina's Education Funding Model

Primary funding for North Carolina comes from three sources, the local, state, and federal level. Like all states, the majority of funding for public education comes from the state's level. North Carolina is one of just a handful of states that uses a resource allocation model. LEA's receive money for a certain number of inputs (e.g., teachers, assistants, etc.) based on the number of students in the district. Most of these inputs fall under three different kinds of allotments:

■ Position Allotments: Each district receives a certain amount of instructional staff positions based on the average number of students in membership (ADM) on a given day. The district pays the base salaries for those positions in alignment with the state salary schedule.

■ Dollar Allotments: Districts receive a specified dollar amount for non-instructional staff (such as teacher assistants and central office employees) and resources (such as textbooks and classroom supplies).

■ Categorical Allotments: Districts receive funding to provide additional resources to specific student groups, including:

› Students in specific grade levels;

› English-language learners;

› Students in high-poverty districts;

› Students with disabilities;

› Students identified as gifted;

› Students enrolled in career and technical education (CTE) programs; and

› Students enrolled in small schools and districts.

Figure 4: North Carolina Current Education Expenditures by Source, 2023–24

Local, 23%   Federal, 17%

State, 60%   Source

Supplemental funding is provided to districts that are located in counties that qualify as "low-wealth" and those that serve 3,000 or fewer students. The state also provides funding through grants that are restricted for specific purposes, such as the School Safety Grant and Cooperative Innovative High School Grant.
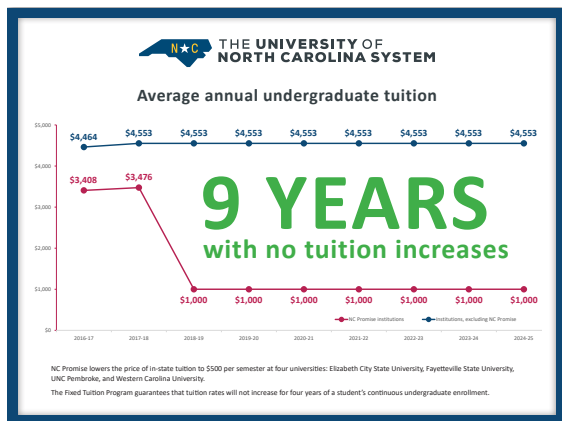
Policy Considerations

■ How can North Carolina align school funding with student and school needs?

■ How can North Carolina increase transparency with respect to school funding?

■ How can both North Carolina and its districts best leverage federal relief funding for education?

UNDERSTANDING HIGHER EDUCATION AFFORDABILITY IN NORTH CAROLINA

Enrolling in institutions of higher education (IHEs) can have positive long term economic and employment impacts for students who graduate with their credentials, as research from Georgetown's Center on Education and Workforce notes that a person's employment prospect improve significantly the more credentials they accrue. With college attainment so directly tied to economic mobility, students are continuing to enroll in IHEs despite the marked increase in costs associated with higher education. College tuition and fees have increased across all institutional sectors nationwide for the 2024-2025 academic year, with the latest figures gathered from the College Board reflecting that cost of tuition in North Carolina is markedly less than the national average.

Figure 5: Tuition Trends in the University of North Carolina System

Source

A number of initiatives in North Carolina serve to ensure that higher education is affordable and accessible for students:

- The Fixed Tuition Program ensures that once North Carolina residents enter as first-year students at any UNC System Institution, tuition rates will not go up for eight consecutive semesters of enrollment. Students who remain continuously enrolled at a UNC System institution through fall and spring semesters will not see an increase in their tuition over the course of their four-year baccalaureate degree program (The University of North Carolina System).
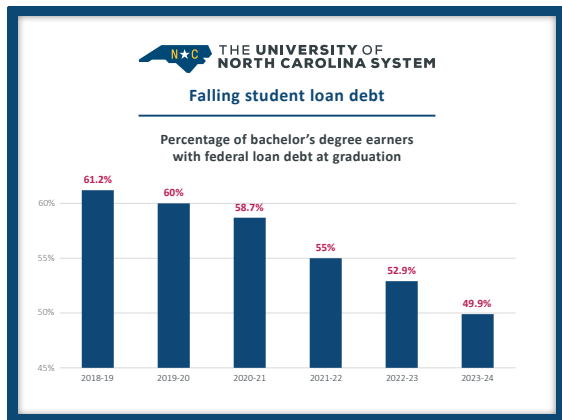
- Through NC Promise, the state has significantly reduced student tuition to $500 per semester at four UNC System institutions: Elizabeth City State University, Fayetteville State University, The University of North Carolina at Pembroke, and Western Carolina University. The plan has increased educational access, reduced student debt, and grown the state's economy.

- The NextNC scholarship is another funding source that prospective students can utilize to mitigate the costs associated with postsecondary education. NextNC combines the federal Pell Grant with state-based financial aid with eligibility determined automatically when students completed the Free Application for Federal Student Aid (FAFSA). Eligible students attending a community college will receive at least $3,000, while those attending a public university in North Carolina will get a minimum of $5,000.

Lowering the cost burden associated with enrolling in IHEs benefits all families across the socioeconomic continuum, with those from working class backgrounds being most positively impacted. With a growing number of employers instituting post-secondary credential requirements for positions, job seekers now, more than at any other time in American history, are having to seek post-secondary education.

Figure 6: Student Loan Debt and UNC System Institutions

THE **UNIVERSITY** OF
NORTH CAROLINA SYSTEM

Falling student loan debt

Percentage of bachelor's degree earners
with federal loan debt at graduation

61.2% (2018-19) 60% (2019-20) 58.7% (2020-21) 55% (2021-22) 52.9% (2022-23) 49.9% (2023-24)

Source

Policy Considerations

- Are existing programs serving all communities across North Carolina equitably? What strategies could be employed to increase awareness and access?

- What additional policy opportunities exist to increase access to higher education?

- What community partnerships could be leveraged to specifically improve the college-going culture across North Carolina?

FOSTERING ALIGNMENT BETWEEN EDUCATORS AND THE WORKFORCE

Each fall, students make a concerted decision, some with the support of their families, and others without, to further their education and enroll in a postsecondary institution. Indeed, across all institutional sectors (public and private nonprofit four-years, two-year universities, and for-profit universities) adults aged 18 to 64 make the financial and time investment to enroll in an IHE with the goal of gainful employment upon completion. With the increased incidence of employers aligning post-secondary education requirement to non-service industry job listings, students enrolled at IHEs are keenly aware of the generational impact that obtaining a credential can have for their economic mobility.

Officials and administrators at some IHEs, also understanding the pivotal impact that earning post-secondary credentials from their respective institutions can have for their students' job prospects, have worked more diligently to align some of their services with the overall workforce needs nationwide, and regionally. In North Carolina, myFutureNC, has created a labor market alignment metric to measure the efficacy with which North Carolina IHEs prepare their students for the workforce.

MyFutureNC strategically defines their market alignment metrics as,

> **How well-matched the supply of graduates is with the demand of job openings. A rate of 100% means that the distribution of credentials awarded by postsecondary institutions is perfectly aligned with job openings: all degrees and credentials conferred are in demand in the job market. A rate of 0% means that there is complete misalignment between degree production and the job demand — graduates have skills that are not in demand by an employer. Higher labor market alignment rates mean that graduates leave postsecondary with skills and credentials that increase their probability of job market success.**
>
> **myFutureNC**

The most recent update on North Carolina's labor market alignment rate shows an alignment rate of 81 percent, indicating that, "roughly eight of every ten graduates from state postsecondary institutions had skills and credentials aligned with job openings" (myFutureNC). The labor market alignment rate, when disaggregated by regions across the state, shows that certain regions are outperforming others. Table 3 depicts the disaggregated rates.

The Greenville, Greensboro, and Wilmington regions show above average labor market alignment rates, while major municipalities like Charlotte and Raleigh-Durham perform below the state's overall market alignment rate. While steady progress has been made to better align the higher education apparatus with workforce demands, more streamlined efforts need to be dedicated to support the employment prospects of graduates who reside in regions with labor market alignment rates that are below North Carolina's average.

Table 2: Labor Market Alignment in North Carolina

State Region	Labor Market Alignment Rate Percent
Greenville	85%
Greensboro	82%
Wilmington	82%
Winston-Salem	80%
Charlotte	80%
Boone-Wilkesboro	80%
Fayetteville-Lumberton	79%
Rocky Mount-Wilson	78%
Raleigh-Durham	76%
Waynesville-Franklin	76%
Elizabeth City	70%
Goldsboro-Kinston	70%
Hickory	68%
Asheville	68%
Jacksonville-New Bern	53%
Pinehurst-Rockingham	47%

Source

Policy Considerations

- What supports could be targeted for regions with below labor market alignment rates?

- What additional primary and secondary educational inputs could be offered to better prepare students to be labor market oriented upon post-secondary enrollment?

- What existing initiative — if expanded — could engender more impactful labor market outcomes for politically marginalized communities?
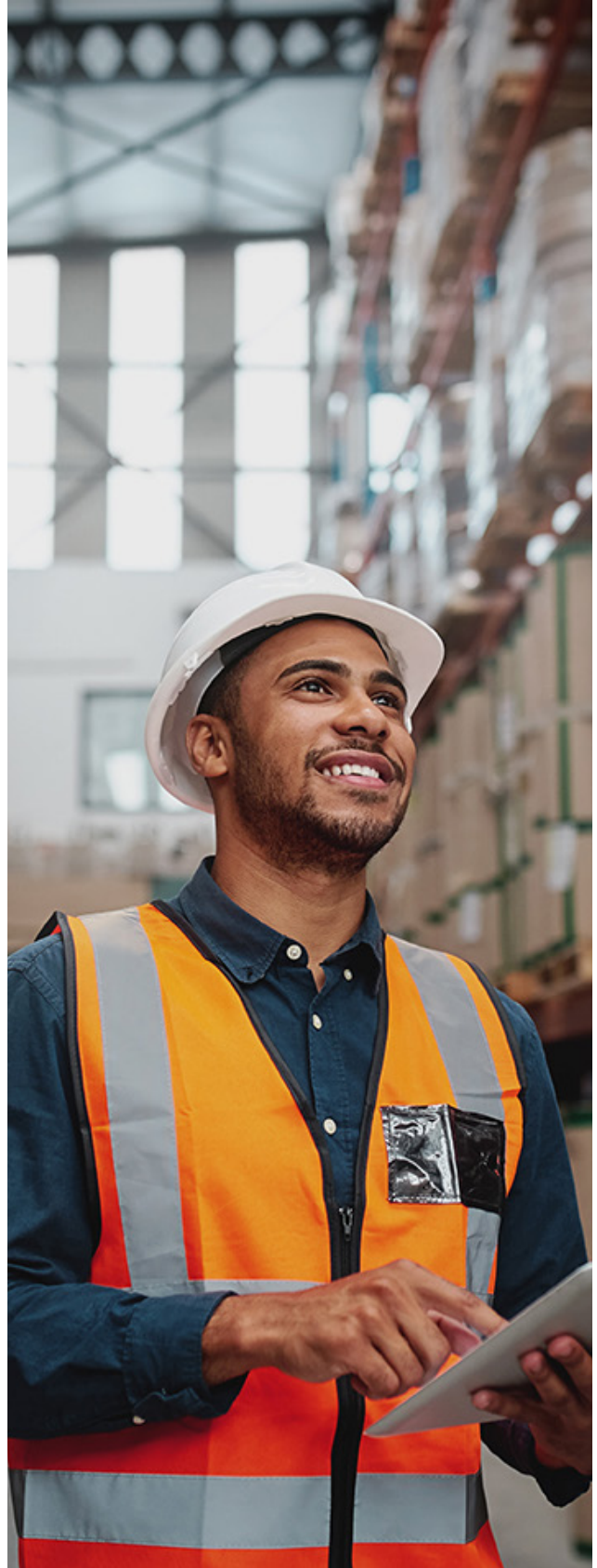
Established in 2001, The Hunt Institute honors the legacy of James B. Hunt, Jr., the former governor of North Carolina who distinguished himself as an ardent champion of education.

The Hunt Institute brings together people and resources to inspire and inform elected officials and policymakers about key issues in education, resulting in visionary leaders who are prepared to take strategic action for greater educational outcomes and student success.

In 2016, The Hunt Institute became an independent, nonprofit entity and joined forces with Duke University's Sanford School of Public Policy to pursue research, educational partnerships, and events related to improving education policy.

Learn more at www.hunt-institute.org.

**4000 Centregreen Way | Suite 301 |
Cary, NC 27513 | 984-377-5200**