seeding success

2022 Public Policy AGENDA

Table of Contents

Executive Summaries

Pre-K

Shelby County has led in innovation related to Voluntary Pre-K (VPK) in Tennessee. By going the extra mile in providing wraparound services for all families with children enrolled in VPK, Shelby County can reach more low-income families with services such as health screeners, social workers, and other childhood development resources than traditional VPK programs. These services correlate with higher performance outcomes for children in the short- and long-term and yield returns on investment of as high as $10 for every public dollar spent on Pre-K. Some studies suggest, however, that many of the gains associated with early childhood education largely fade by the time a student reaches 3rd grade. This likely has more to do with the quality of K-12 schools into which these low-income children matriculate, rather than the viability of VPK.

Request: We request that the state of Tennessee provide additional funding to scale Shelby County's innovative VPK model statewide. Subsequently, additional funding for K-12 instruction, materials, and other inputs are needed to sustain the growth of students and ensure the return on investment that Pre-K provides.

Beyond the Classroom

In 2016, Tennessee had 138,100 STEM employees, and this number is projected to increase to 167,950 in 2026 ("The Demand for STEM," 2). The demand in STEM jobs calls for a future workforce who will be well equipped for those roles. However, Shelby County Schools is facing a great shortage of teachers which has also impacted STEM subjects like math and College and Career Technical Education.

Request:

- This policy memorandum suggests streamlining the industry professionals' teaching pathway by expanding the state's requirement time for credentialing from 4 years to 8 years.
- The policy memorandum recommends that SCS builds out a mentorship program for industry professionals so that they are prepared to teach students and meet their varying needs.
- The policy memorandum suggests expanding the University of Memphis' education minor among other colleges and universities and partnering with a STEM-based company to create a scholarship program for the minor with the

requirement that scholarship recipients remain to teach in the County for 4 to 7 years or work in a STEM-based industry.

- Lastly, the policy memorandum suggests the district create professional development training for current staff to earn credits towards STEM certification.

Opportunity Youth

A majority of Opportunity Youth in Memphis hold high school diplomas or high school equivalencies, and many have acquired at least some postsecondary credits. Currently, there are tens of thousands of open job positions in Shelby County, but the majority of those positions that pay a living wage require some postsecondary degree or a career and technical training credential. Choosing the right career training program can be a difficult decision, given a lack of information provided at the state and local level for students to be able to compare programs. Additionally, many programs are not sufficiently aligned with workforce standards, leaving students with the potential of attending a costly program with no prospects for gainful employment.

Request: Through the Workforce Innovation and Opportunity Act (WIOA), the state of Tennessee and, subsequently, each locality can more specifically prioritize funding for career training programs tailored to the economic needs of each area. We request that the state require programs that receive WIOA funds to specifically enumerate the career placement opportunities for which graduates of their programs would be eligible once they have completed the program. Additionally, WIOA funded programs should report mean and median earnings of their alumni, as well as the industries they are placed in and the overall job placement rate of all enrolled students. The state can improve data reporting and sharing to help potential students make the most informed decisions possible about their education and career trajectories by gathering all program data into a single annual report with analysis of program cost compared to alumni earnings. Finally, the Greater Memphis Local Workforce Development Board may consider prioritizing the distribution of WIOA funds locally for proven high-quality programs, particularly those that partner with recognized industries.

Postsecondary Education

In order for Tennessee to realize the full potential of its postsecondary system–as a lever for individual skill building, for social and economic mobility, and to build a competitive workforce–the needs of students from low-income backgrounds will demand policy intervention. Students of low income make up over 60 percent of those enrolled full time at Tennessee's Community Colleges and Colleges of Applied Technology, and over

40 percent at the state's public four-year colleges and universities. Meanwhile, these students receive less financial aid from sources such as Tennessee Promise than their more economically advantaged peers.

Students of low income and with less access to financial aid often confront basic needs insecurity. This manifests as unstable housing or homelessness, poor access to food and nutrition, inability to afford transportation to campus. Such insecurity leads to missed classes, lower grades, withdrawal from school, and ultimately, unfulfilled dreams. Indeed, Tennessee's college students of low income withdraw at higher rates and fall short of degree attainment more often than students of middle and high income. At a macro level, this risks dragging down degree attainment rates statewide and preventing higher education authorities from achieving the Drive to 55 goal.

Request: We call on the Tennessee Higher Education Commission and the Department of Human Services to declare degree and certificate programs, which will enhance the employability of students enrolled at Tennessee's public two-year institutions, as equivalent to SNAP Employment and Training programs. This declaration will provide a path for income-eligible students to access SNAP benefits via the same work exemptions available to SNAP E&T recipients. This will require no additional state funds and could reduce food insecurity for as many as half of the state's community college and TCAT students. We further request that the Department of Human Services create a process by which college student advisors and/or career counselors can simply and efficiently provide verification that a student is enrolled in a SNAP-eligible, employment-enhancing program.

Enhancing & Expanding Pre-K Access

Background

The positive net effects of quality pre-K programming have been well-documented for decades. One such public program boasts reductions in grade retention and special education placements, particularly among students who attend the program for two years,[1] while more in-depth and robust statistical analyses show significant increases in cognitive development among children who attend preschool prior to kindergarten.[2] Additional commonly touted benefits of Pre-K include short-term academic benefits, as well as long-term quality of life improvements such as increased earnings and decreased crime involvement.[3] Some studies find net positive effects of state funded Pre-K for all populations, with larger effects experienced by children from lower-income families.[4] Crucially, one study in Georgia found a $5.12 return on investment for every public dollar spent on Pre-K, [5] while others demonstrated significantly larger returns correlated with higher quality of programming.[6]

While one recent study found that the gains exhibited in students of Tennessee's voluntary Pre-K (VPK) program diminished significantly by the time the children were in third grade,[7] the study mainly focuses on diminishing returns related to academic achievement, regardless of the quality of the VPK program or the quality of the school into which the student matriculates for K-12 education. If anything, this study emphasizes the point that the primary beneficiaries of state-funded VPK are families of low-income backgrounds who likely reside in areas zoned for failing public K-12 schools. The diminishing returns exhibited by a VPK student who tests highly on kindergarten readiness exams only to lose those gains in elementary school is more an indictment of the quality of the K-12 system than of the merits of Pre-K.

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[1] Barnett, W. Steven, Kwanghee Jung, M. Youn, and Ellen C. Frede. "Abbott preschool program longitudinal effects study: Fifth grade follow-up." *New Brunswick, NJ: National Institute for Early Education Research* 10 (2013).
[2] Camilli, Gregory, Sadako Vargas, Sharon Ryan, and W. Steven Barnett. "Meta-analysis of the effects of early education interventions on cognitive and social development." *Teachers college record* 112, no. 3 (2010): 579-620.
[3] "Infographic - Pre-K Matters." Urban Child Institute , 2012. http://www.urbanchildinstitute.org/articles/infographics/pre-k-matters.
[4] Barnett, "Abbott preschool program longitudinal effects study: Fifth grade follow-up.", 2013.
[5] "Pre-K Matters." Urban Child Institute, 2012. http://www.urbanchildinstitute.org/articles/policy-briefs/pre-k-matters
[6] Robert G. Lynch, *Enriching Children, Enriching the Nation: Public Investment in High-Quality Prekindergarten* (Washington: Economic Policy Institute, 2007).
[7] Mark W. Lipsey, Dale C. Farran, and Kelley Durkin, "Effects of the Tennessee Prekindergarten Program on Children's Achievement and Behavior through Third Grade," *Early Childhood Research Quarterly* 45 (2018): pp. 155-176.

Voluntary Pre-K (VPK)

Shelby County has been a leader in innovation as it pertains to VPK locally. While Head Start requires wraparound services for families, the Tennessee Department of Education does not hold that requirement for VPK. Shelby County, however, has self-imposed that requirement, and each family with a student enrolled in VPK locally receives wraparound supports such as connection to a social worker to meet family needs, health screenings, and other individualized early childhood development resources.[8] This model is somewhat reminiscent of the famous Perry Preschool model, which targeted low-income households with one or two years of Pre-K intervention for 3- and 4-year-old children, including a standardized curriculum, high teacher-student ratios, and regular home visits.[9]

Extensive research supported by the National Institutes of Health demonstrates that support for families – otherwise known as the two-generation approach – significantly strengthens a child's neurological development, thus setting them up for greater early childhood gains. This research concludes that a child who is born into a family with economic hardships, limited parental education, or racial or ethnic minority group status (otherwise known as "toxic stress"[10]) faces significant adversity in potential educational attainment and health outcomes which may not be remedied by later interventions.[11] As such, earlier interventions which involve multi-generational strategies to expand the capabilities and stability of families are key to reducing health and education disparities before they become irreversible. Implementing VPK strategies that emphasize funding for wraparound services and family support is the most cost-effective and economically rewarding strategy for the state of Tennessee to adopt in this case. To sustain the growth and development of VPK students, however, we must ensure that they receive a high quality K-12 education.

K-12 Quality Consistency

[8] Charisse Gulosino and Phoebe Maxwell, "A Comprehensive Framework for Evaluating Shelby County School District's Voluntary Preschool Program: The Challenges of Equity, Choice, Efficiency, and Social Cohesion," *Urban Education*, 2018.
[9] Shonkoff JP;Fisher PA; "Rethinking Evidence-Based Practice and Two-Generation Programs to Create the Future of Early Childhood Policy," Development and psychopathology (U.S. National Library of Medicine), https://pubmed.ncbi.nlm.nih.gov/24342860/.
[10] Shonkoff JP;Fisher PA; "Rethinking Evidence-Based Practice and Two-Generation Programs to Create the Future of Early Childhood Policy," Development and psychopathology (U.S. National Library of Medicine), https://pubmed.ncbi.nlm.nih.gov/24342860/.
[11] Ibid.

Quality Pre-K programs can propel a child's life from cradle to career. Although some studies show a decline of competitive edge in academic achievement throughout elementary school, investment in K-12 quality can contribute to the sustainability of these educational gains. More specifically, K-3 quality is defined by a program's structural elements, classroom environmental factors, and level of teacher-student interaction.[12]

A key structural element for improving K-3 quality is ensuring classrooms have the right student-teacher ratio. Smaller class sizes are associated with increased student engagement levels, time-on-task, and time for individualized support from teachers.[13] One study found that class sizes over 20 for Pre-K and Kindergarten are typically correlated with poorer student outcomes, even when controlling for family income. Tennessee Code Title 49, however, sets the individual classroom maximum size for K-3 at 25.[14] Additionally, an analysis of the state's Basic Education Program funding showed that the "BEP funds on average one teacher for every twenty three students."[15] The same BEP analysis found that supplemental, local funds in wealthier districts decreases the student-teacher ratio to 19-20:1, whereas 24:1 is the average student-teacher ratio for the poorest districts. Investing in reducing student-teacher ratios will help sustain Pre-K learning gains as more students have access to their teachers' attention and time. With the ongoing COVID pandemic, this investment is even more important now to make up for learning losses and sustain the early financial and cognitive investment in Tennessee's Pre-K population.[16]

Additionally, the physical environment of a school plays an important role in stimulating a child's academic development. A study of 24 elementary schools found a positive correlation of each element of movement and circulation, large group meeting spaces, day lighting and views, and instructional neighborhoods with student achievement. In more concrete terms, this means investments in large enough play spaces indoors and outdoors through gyms, playgrounds, classrooms, and other gathering areas are important in creating a conducive learning environment.[17] Not only does space need to be available, but also to meet health and safety elements such as clean air and water.[18]

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[12] Robert Pianta, Jason Downer, and Bridget Hamre, "Quality in Early Education Classrooms: Definitions, Gaps, and Systems," *The Future of Children* 26, no. 2 (2016): pp. 119-137.

[13] Schanzenbach, D.W. 2014. "Does Class Size Matter?" Boulder, CO: Great Lakes Center for Education Research and Practice.

[14] TCA § 49-1-104

[15] McKillip, Mary, and Danielle Farrie. 2020. "More Funding Needed to Fix Tennessee Staffing Shortages." Fair School Funding: A Resource Equity Report. Education Law Center. https://edlawcenter.org/research/tennessee/staffing-shortages.html.

[16] Ibid.

[17] C. Kenneth Tanner, "Explaining Relationships among Student Outcomes and the School's Physical Environment," *Journal of Advanced Academics* 19, no. 3 (2008): pp. 444-471.

[18] "Physical Environment," National Center on Safe Supportive Learning Environments (NCSSLE), https://safesupportivelearning.ed.gov/topic-research/environment/physical-environment.

One study shows the power of a "dynamic complementarity" model of skill-building, which emphasizes investment in K-12 education complementing school readiness and skill-building outcomes achieved by high quality Pre-K-4.[19] The rate of return has the potential to be consistent over the academic career of a child and therefor, their families, communities, and society. The need in Shelby County K-12 investment correlates with the need of the neighborhoods where VPK is present. GIS data from 2016-17 show that most VPK sites exist in highly disadvantaged zip codes with high socioeconomic needs. Once a child completes Pre-K, she moves to a low funded school district with limited funding and resources.[20] The resources available to meet the standards of a high-quality K-12 system are related to the neighborhoods they exist in, which increases the importance of public investment in quality measures.

[19] Drew H. Bailey et al., "Persistence and Fade-out of Educational-Intervention Effects: Mechanisms and Potential Solutions," *Psychological Science in the Public Interest* 21, no. 2 (2020): pp. 55-97.

[20] Charisse Gulosino and Phoebe Maxwell, "A Comprehensive Framework for Evaluating Shelby County School District's Voluntary Preschool Program: The Challenges of Equity, Choice, Efficiency, and Social Cohesion," *Urban Education*, 2018.

Teacher Shortage in STEM Subjects

Charity Porotesano

Background

The demand for jobs in science, technology, engineering, and mathematics (STEM) remains high. In 2013, the United States Department of Commerce estimated that STEM jobs will increase 1.7 times faster than jobs outside this field.[1] In the next decade, U.S. growth in this sector is expected to increase over two times faster compared to all other types of occupations.[2] Additionally, today's national median income for STEM jobs at $89,783 is more than half of the median income of $40,020 for other occupations.[3]

Tennessee mirrors the national trends, given that STEM jobs are projected to grow through 2026 from a 138,100 workforce in 2016 to 167,950 in 2026.[4] The additional jobs gained between the aforementioned time period comprises 8.44% of new jobs.[5] Between 2016 and 2025, STEM jobs are estimated to grow by 21.6% compared to the 11.4% growth rate for all jobs in the state. Most of the jobs in this sector will be in the fields of computer, mathematics and architecture, and engineering.[6] In 2018, the median salary of STEM employees amounted to $70,894 which is more than half the median salary of all occupations in the state at $34,895.[7]

Engagement in STEM fields points to better life outcomes for minority groups such as women and youths. Women in STEM fields have the smallest gender wage gap compared to women in other fields. Women in STEM earn 92 cents for every dollar a man earns, but women in the non-STEM sector earn 77 cents for every dollar a man earns.[8] Students with early STEM career aspirations are more likely to complete a college

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[1] Executive Office of the President of the United States. *Federal Science, Technology, Engineering, and Mathematics (STEM) Education 5-Year Strategic Plan: A Report from the Committee on STEM Education National Science and Technology Council*. Washington, D.C. 2013.

[2] Alan Ziberman and Lindsey Ice, "Why computer occupations are behind strong STEM employment growth in the 2019–29 decade," *Beyond the Numbers: Employment & Unemployment*, vol. 10, no. 1 (U.S. Bureau of Labor Statistics, January 2021), https://www.bls.gov/opub/btn/volume-10/why-computer-occupations-are-behind-strong-stem-employment-growth.htm.

[3] U.S. Bureau of Labor Statistics, "Table 1.11 Employment in STEM occupations, 2020 and projected 2030 (Numbers in thousands)," Occupational Employment and Wage Statistics Program, September 2021, https://www.bls.gov/emp/tables/stem-employment.htm.

[4] Tennessee Department of Labor and Workforce Development Workforce Insights, "Demand for STEM Occupations in Tennessee," *Research & Reporting Engine Division*, 2019, https://www.jobs4tn.gov/admin/gsipub/htmlarea/uploads/LMI/Publications/STEMReport2019Updated.pdf.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] Ibid.

degree in STEM,[9] and this finding suggests that students with early exposure to STEM learning benefit greatly in their future career from that foundation.

While opportunities in STEM are abundant, businesses across the country have reported a dearth of mathematics, computer, and problem-solving skills among job candidates, causing them to consider international applicants in their candidate pool.[10] In 2019, the Tennessee Department of Labor reported that two in every three STEM job listings had a lack of job applicants with the biggest shortages in computer occupations and information security analysts.[11] The fields with the biggest shortage in the state are also those with the highest paying wages.[12]

While STEM opportunities have made gains, the school-to-career pipeline still holds barriers especially for underrepresented groups. Nationally, women are almost half the workforce and over half of the college population, but they make up less than 25% of STEM jobs and earn less than 20% of degrees in high demand disciplines such as computer science and engineering."[13] About 70% of college students are women and minorities, yet only 45% of these students receive a bachelor's degree in a STEM field.[14]

The average high school students from underserved groups perform at the 20th percentile compared to their affluent peers' performance at the 50th percentile.[15] This data suggests that the inequity in STEM begins early and persists from preschool to career.[16] It is then no surprise that the farther along a students' studies go, the narrower the likelihood for them to pursue STEM. The White House reported that "only one in five high school graduates who score in the top quartile in mathematics goes on to become a STEM professional."[17] Compared to 26% of boys nationwide, only 9% of girls in AP classes take a course in mathematics.[18] A national breakdown of African American and Hispanic AP enrollment shows that girls make up only 39%.[19] Physics classes comprise only 46% of girl students.[20] At the higher education level, less than 40% of students with intentions to major in STEM disciplines end up graduating with a degree in

[9] Executive Office, *(STEM) Education 5-Year Strategic Plan.*

[10] Ibid.

[11] Tennessee Department of Labor, "Demand for STEM Occupations."

[12] Ibid.

[13] Executive Office, *(STEM) Education 5-Year Strategic Plan.*

[14] Tennessee Department of Labor, "Demand for STEM Occupations."

[15] Executive Office, *(STEM) Education 5-Year Strategic Plan.*

[16] Ibid.

[17] Ibid.

[18] Ibid.

[19] Ibid.

[20] Ibid.

these disciplines, and STEM makes up only 19% of overall bachelors degrees in the U.S.[21]

On the other end of the spectrum are challenges in teaching STEM. Across the country, there is a shortage of teachers in the STEM subjects. On top of that, approximately 30% of chemistry and physics teachers did not earn their undergraduate degrees in these disciplines and neither did they earn teaching certification in these subjects.[22] This data is concerning because content knowledge is important in order for teachers "to link STEM to compelling real-world issues." In creating that connection to the real world, teachers are able to prepare 21st century students in the skills of critical thinkers and problem solving, much in demand by the STEM sector. A report by the National Research Council of the National Academies also found that an alarmingly high percent of middle and high school science and math teachers did not major in STEM disciplines or "any related field," nor did they gain teaching licensures in these subjects. Another teaching challenge is the national shift to reading and math that has resulted in less time given to teaching natural sciences.[23]

Problem

The plethora of STEM jobs demonstrate that the future careers are in STEM. Businesses' demand for applicants with both soft skills like critical thinking and technical skills such as content knowledge point to the importance of preparing this future workforce. A key factor in training future STEM employees is having enough, well-qualified teachers to meet this demand. Unfortunately, teacher shortage is a common, recurring problem nationwide, and data shows that this issue is even greater for hard-to-staff subjects like math and science.

For minority-majority communities like Memphis, having science and math teachers that look like the community they serve is critical for the success of Black and Brown children. Studies have shown that teachers with the same race as their students are more likely to "set higher expectations for them."[24] Students under the guidance of teachers who share the same race are also more likely to work towards a career in STEM after their high school graduation.[25] This outcome is correlated with students' having role models and mentors in STEM that look like them, which reinforces the importance of representation.[26]

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[21] Ibid.

[22] Ibid.

[23] National Research Council of the National Academies, "Successful K-12 STEM Education: Identifying Effective Approaches in Science, Technology, Engineering, and Mathematics," Washington D.C. 2001.

[24] Ridley-Kerr, Abbey, Carolina Ramirez, and Hana Ma. "Seen, Heard, Reflected: Building and Sustaining a Diverse STEM Teacher Pipeline." *The Education Trust-West*, 2020.

[25] Ibid

[26] Ibid

Like school districts nationwide, Shelby County Schools' (SCS) teacher shortage is a recurring problem with fluctuating teacher vacancies from 2016's first day of school vacancy count of 110 to this school year's 217. The majority of resignations in the last year show that teachers are leaving their professions for other job opportunities. This finding highlights the competitiveness of the current job market. In response, SCS emphasized a commitment to improving retention incentives such as greater transparency with pay promotion and continued professional development with top performing principals.

At a high level, the vacancy count can seem like just a target that must be filled, but a closer look at its impact at classroom-level reveals otherwise. SCS's 2020-2021 District Annual Plan noted that while students have made slow and steady gains with its new math curriculum, "maintaining highly-qualified certified teachers for all grade bands" continues to be a struggle.[27] Without enough consistent math teachers, the gains made will likely be harder to uphold year to year especially given the additional challenges brought about by the COVID pandemic. State testing scores from SY 20-21 revealed that SCS students had the greatest leaning loss in math, especially for students in grades three to five. To reverse this outcome and maintain learning gains from years before particularly in math and sciences, students will definitely need more guidance and support from teachers.

Obstacles

Improving the STEM teacher shortage is very likely to improve students' STEM learning, since more teachers means more time devoted to those subject areas; however, with the competitive job market, it may be harder to recruit teachers with science backgrounds because they may be considering more lucrative opportunities elsewhere. Funding recruitment for teachers may not come at a very high cost, given that the District conducts around seven recruitment fairs year round and that there is a surplus now with 227 vacant positions. With the focus on literacy, STEM advocacy might not receive as much priority and attention among lawmakers. Filling teaching vacancies is a priority for the District's Human Resources, and so there is administrative capacity to improve STEM Teacher Shortage.

Success

Closing the STEM teacher shortage can be measured by the increase in percentage of STEM teachers recruited, current teachers getting STEM certified, STEM teachers remaining in the workforce, administrators trained in STEM, and support/supplemental resources available to teachers.

Solutions

[27] Shelby County Schools, "2020-21 Shelby County Schools District Improvement Plan," May 2021, https://www.scsk12.org/federal/files/2020/2020-21DistrictAnnualPlan.pdf.

An approach to filling the STEM teacher shortage may be to streamline the teaching pathway for industry professionals to teach these courses. Another solution could be to expand the University of Memphis Education K-12 minor that allows undergraduate students to earn teaching certifications in their major. This model will increase the number of certified STEM teaching candidates in other higher education institutions in the County. Lastly, the current workforce of teachers could be certified to teach STEM subjects.

Solutions Analysis

Hiring Industry Professionals

Shelby County's 2019 Census data show that a combined 60.8% of the population work in STEM-related fields: management, business, science, and arts (36.6%); production, transportation, and material moving (18.7%); and natural resources, construction, and maintenance occupations (5.8%). The breadth of the existing workforce provides a market of talent from which SCS can recruit part-time or full-time occupational teachers to teach STEM or STEM-related subjects in College, Career, and Technical Education (CCTE). Teaching part time would provide an additional income for industry professionals, while working full time could provide a different career path.

Another incentive would be to ease credentialing requirements so that industry professionals would have less additional requirements to fulfill before teaching. These credentialing requirements include industry certification and participation in an Educator Preparation Program. Barriers to participation include time needed to complete the educational preparation program as well as funding for the program.

A review of a recruitment process that waives credentialing in Michigan found that industry professionals without any induction training or professional development requirement left the occupational teachers feeling unprepared in the classroom and more likely to be burned out. The study found that occupational teachers without teaching training likely did not know how to tailor their lesson to meet students' varying needs especially for English Language Learners, nor did they utilize a diverse set of assessments. Others felt burned out from managing their classroom.

Training Current Workforce

With SCS overall teacher shortage, another avenue to increase STEM-specialized teachers would be to train the current teaching workforce in STEM integration. Integration of STEM among STEM disciplines and in other core subject areas is already a recommendation in the state's 2018 STEM Plan. A study found that teachers trained to integrate STEM who then work together with co-teachers to plan weekly and monthly lessons are more likely to retain their training knowledge and utilize them in the

classroom. Tennessee State Board of Education policy allows for teachers to teach two sections of one course outside their endorsement, and therefore training in STEM integration would allow for teachers to teach STEM, 21st Century skills such as problem solving skills and critical thinking.

Also included in the state's 2018 STEM Plan is the recommendation to create micro-credentialing that would qualify for Professional Development points for endorsement/credentialing. There is certainly opportunity either through district created PD or micro-credentialing to assist teachers with gaining PD points for STEM subject endorsements. Currently, the state of Louisiana has received a federal grant from the U.S. Department of Education's Education Innovation and Research Program to build out a micro-credentialing program for STEM pathways; results from this pilot will be available in 2023. A barrier to this would be lack of incentives among teachers to get certification/endorsements in STEM. With the job opportunities in the STEM field, an incentive for teachers would be to participate in paid industry jobs during the summer. A similar model at the University of Arizona pairs teachers with different STEM-related companies for a summer salary between $6,000 to $9,0000. The financial incentive to participate in a summer job may likely gain teacher buy-in as well as the opportunity to expand their network and other professional opportunities including conferences.

A study found that teachers who participate in a summer STEM work gains a better understanding of career pathways and industry culture that they can then share with their students. Investing in the current work

Recruiting Undergraduates

Currently, the University of Memphis provides a minor for teaching credentialing that STEM majors can take advantage of. Participation in a minor like this would build students' job skills that would make them competitive compared to other STEM majors that do not have the additional teaching training. Expanding this model to other higher institutions of education would open the possibility of more undergraduates to consider minoring in teaching. An additional incentive would be to highlight for students the state's Math and Teaching Loan Forgiveness program.

Policy Recommendations

This policy memorandum suggests streamlining the industry professionals' teaching pathway by expanding the state's requirement time for credentialing from 4 years to 8 years. This ensures that professionals will be given enough time to gain certification and will likely remain beyond the 8 year point. The Michigan study found that 8 years is the time frame that occupational teachers tend to remain within a school district.

The policy memorandum recommends that SCS builds out a mentorship program for industry professionals so that they are prepared to teach students and meet their

varying needs. Unlike teachers who undergo a traditional pathway of licensure, industry professionals are less likely to be aware of the requirements and resources like Tennessee's Career and Technical Scholarship for industry professionals. This will help occupational teachers understand the first step to the final step that they will need to take for endorsement. The mentorship program could also prepare industry professionals to pass licensing exams. One model to look at is the EnCorps STEM Teacher program, which has recruited and trained 1,288 STEM professionals with bachelor or higher degree in the natural sciences to become educators since 2007. The program brings volunteers to guest teach for one to two semesters while the program prepares them to complete the certification process. This program has a 5-year retention rate of 88% and teacher composition of 44.7% teachers of color. For industry professionals with higher education degrees, they can be incentivized to teach through the TN Math and Science Teacher Loan Forgiveness program.

Also, the policy memorandum suggests expanding the University of Memphis' education minor among other colleges and universities and partnering with a STEM-based company to create a scholarship program for the minor with the requirement that scholarship recipients remain to teach in the County for 4 to 7 years or work in a STEM-based industry. This requirement ensures that those pursuing the minor in teaching will be able to give back to the County in either teaching or another sector.

Lastly, the policy memorandum suggests the district create professional development training for current staff to earn credits towards STEM certification. Certification rules and regulations note that local education agencies have the authority to create training that leads to certification.

Streamlining Career Training Funding for Opportunity Youth in Tennessee

Anthony Hanna

Abstract

The question of how to address the reconnection of Opportunity Youth to education and work is one that is of particular importance to Memphis and Shelby County. With some estimates of Opportunity Youth in the greater Memphis area exceeding 45,000, one crucial area of focus is the connection between career training programs and gainful employment. Through the Workforce Innovation and Opportunity Act (WIOA), the state of Tennessee and, subsequently, each locality can more specifically prioritize funding for career training programs tailored to the economic needs of each area. The state may require that programs partner with local businesses or industries, and the local workforce development boards may give funding at the board's discretion that prioritizes proven high-quality programs. Additionally, the state can improve data reporting and sharing to help potential students make the most informed decisions possible about their education and career trajectories.

Background

Opportunity Youth, defined as youth aged 16-24 who are out of school and out of work, number nearly 5 million, or 11% of the national age group.[1] Opportunity Youth tend to be disproportionately youth of color, with 78% of these youth in Memphis identifying as African-American.[2] The City of Memphis ranks number one nationally for the highest percentage of Opportunity Youth, with approximately 27,000 such youth – or 17%.3 This does not take into account the greater Memphis area, including Shelby County and parts of Mississippi and Arkansas, taking the estimation as high as 45,000 youth.[4]

In terms of educational background, more than half of Opportunity Youth in Memphis have a High School diploma or high school equivalence,[5] but only about 12% of those who hold an Associate's Degree are Opportunity Youth.[6] Within the general population, Tennessee has a 56.3% postsecondary enrollment rate, and a much lower 17.2% postsecondary completion rate.[7] This aligns with what we know about educational outcomes for Opportunity Youth: Many of these youth begin a postsecondary degree or

[1] "City of Memphis Opportunity Youth Strategic Plan Update." Memphis, TN, 2018.

[2] Lockridge-Steckel, Sarah. "The Opportunity Project," 2016.

[3] "City of Memphis Opportunity Youth Strategic Plan Update"

[4] Lockridge-Steckel

[5] Lockridge-Steckel

[6] "City of Memphis Opportunity Youth Strategic Plan Update"

[7] *2020 By the Numbers*, February 10, 2020. https://tnscore.org/wp-content/uploads/2020/02/By-The-Numbers-2020_FINAL.pdf.

credentialing program but often drop out due to external factors.[8] Of all counties in Tennessee, Shelby County has the highest share of those with some college education and without a degree (170,000+).[9]

Additionally, enrollment at community colleges governed by Tennessee Board of Regents (TBR) decreased 4% from 2009-2019, indicating a lack of appetite for higher education, a decrease in the high school graduating population, increased barriers to higher education, higher enrollment in 4-year public or private institutions, among other possibilities. While 11.5 million new jobs have been available for workers in Tennessee with postsecondary credentials since 2011, only 80,000 jobs were available to those with a high school diploma or less.[10]

In addition to the socioeconomic constraints felt by Opportunity Youth in Memphis and Shelby County, it is estimated that each Opportunity Youth costs the County an estimated $13,600 annually in direct social costs, totaling $346.2 million annually. [11] Nationally, it is estimated that each Opportunity Youth, when not reconnected with educational and economic opportunities to advance their socioeconomic status, can cost upwards of $755,000 over their lifetime.[12]

In order for the region to have a thriving economy, all members will need the education and training necessary to contribute. Not only is it important that young people have pathways for social and economic mobility, but it is important for the entire region in terms of strengthening the workforce, reducing costs, growing the economy, and increasing the competitive attraction of Memphis and Shelby County nationally.

Problem

One of the avenues for Opportunity Youth to reconnect with the job market is by seeking out job certifications. According to the state's One-Stop Operator – the state's required resource site for employment and training opportunities, as mandated by the federal Workforce Innovation and Opportunity Act (WIOA) – there are tens of thousands of open employment positions in Shelby County alone. Additionally, Shelby County's unemployment rate in July of 2021 was 7.5%, nearly three points above the

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[8] "City of Memphis Opportunity Youth Strategic Plan Update"

[9] *The Pipeline to Community and Technical Colleges*. Tennessee Board of Regents, October 2020. https://www.tbr.edu/sites/default/files/media/2020/10/We%20All%20Rise%202020_The%20Pipeline%20to%20Community%20and%20Technical%20Colleges_Final.pdf .

[10] *The Pipeline to Community and Technical Colleges*

[11] "City of Memphis Opportunity Youth Strategic Plan Update"

[12] Belfield, Clive R., Henry M. Levin, and Rachel Rosen. "The Economic Value of Opportunity Youth." Civic Enterprises, 2012.

state of Tennessee's 4.7% unemployment rate.[13] Many of these positions could feasibly be filled by Opportunity Youth, particularly those over the age of 18.

Many of the more gainful positions, however, require certain job certifications such as ones provided by training programs in Information Technology (IT) or coding. For example, at the time of this publication, there were several job postings for software developers open at FedEx, which list multiple coding qualifications as requirements for applicants.[14] These positions pay between $52,000 and $148,000 depending on experience – a range that is well above the median wage in Memphis, TN and consistent with state data regarding high-paying jobs.[15]

To build qualifications for such well-paying jobs, prospective employees in the Memphis area might have several training options from which to choose. Selecting and enrolling in the best program for their needs, however, is not always straightforward. For instance, CodeCrew Code School offers a Full Stack Software Development Bootcamp, which costs around $12,000.[16] Another similar program – though not specifically tailored to software development – is offered by the Tennessee College of Applied Technology at Memphis. This Computer Information Technology program costs around $8,000.[17] Both programs are certified by the state to receive WIOA funds, indicating that they meet certain quality measures for training providers as enumerated in the Tennessee state WIOA plan.[18] Both are programs qualified to operate in the state of Tennessee, and

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[13] Workforce Insights, Research and Reporting Engine Division, Tennessee Department of Labor and Workforce Development § (2021). https://www.tn.gov/content/dam/tn/workforce/documents/LaborEstimates/Labor_Force_Estimates_Jul_21.pdf.

[14] "Software Developer - All Levels." jobs4TN.gov, 2021. https://www.jobs4tn.gov/vosnet/jobbanks/jobdetails.aspx?enc=9B8%2FuT7EfbEIDLIMZ8rhowzqyZjsNU1dBVrIZPNl61aLdeYEgg50x36hjNUp%2BPGj47vEN0TRaAHM5s9xNXF7T68gr4pSs0vLalgwC4ITKTZWVU39yv307S997c%2FB2LOg0IWpiYccT%2FGzW5w0kvNvd95JYyH%2FWotJBUnA9YJSDePhPbHoi0m7MJwzqdTqw70XtpqlIOVv7DufzbxIn6%2FB3XqAldtpEUx86nl7ZQCDt1SrB2vLIS3%2BYs9ZsXy7TWPoiOyUb51jHmEjCiZqzKwc0%2BgHS%2BLpSwI%2Fh4omco72aqJv3kamlXW94MGGPpgpVIZB.

[15] "May 2020 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates." U.S. Bureau of Labor Statistics. United States Department of Labor, March 31, 2021. https://www.bls.gov/oes/current/oes_32820.htm#15-0000.

[16] "CodeCrew Code School." jobs4TN.gov, 2021. https://www.jobs4tn.gov/vosnet/CIS/CRS/crs_programdata.aspx?enc=19bHuooOCDRghDnW2gByxc7YUtKxdvgLVdlG94uSnO7Ma1bm3Wl9hJZ6M2Nl9uS0mHoHJnKhh4Xu9n9n4%2FzzmpftzdRKD2no0h2ED9aARMmXfCPbYkrctGj5tq4Pq9hnwQ8WMRLnlAHW3YNJdN1Xnb3piwKJF3%2FTG1E%2BANcGT3N54PtKZyprzIhvx%2F52bwkB.

[17] "Tennessee College of Applied Technology at Memphis." jobs4TN.gov, 2021. https://www.jobs4tn.gov/vosnet/CIS/CRS/crs_programdata.aspx?enc=19bHuooOCDRghDnW2gByxc7YUtKxdvgLVdlG94uSnO5hntUjnohpEOCyLOLGG3WYyKyyyKfF1e%2FvTADi6ziuXEXVvl2EeqkK5gkHDoME%2BSggHa2eqhTox%2B0FcZzHCBqoJDbTdZyHxSwXQGTxMGZt6%2FqAr%2F8slYqjP%2FvSfD%2B5FSY.

[18] Tennessee PYs 2020-2023 § (2020). https://www.tn.gov/content/dam/tn/workforce/documents/wfs/WIOAApprovedPlanTNPYs2020-2023.pdf.

details of their programs are found on the state's website. Both represent a potentially exorbitant cost to an Opportunity Youth seeking to break into a new industry, though one is significantly less expensive than the other. But because job seekers looking for gainful employment in this field are required to possess certain qualifications or certifications, potential employees are likely to seek out the most budget friendly option available to them. While the more expensive program at CodeCrew does not require payment until graduates land a job,[19] TCAT does not seem to offer the same with regards to upfront costs.

An additional consideration in this choice is the availability of seats in relevant programs. While TCAT's program has a capacity of 40, CodeCrew has a maximum capacity that is much smaller. If a job seeker would like to apply for a certification program at CodeCrew when the capacity has been filled, they would be forced to wait until the next cohort or find an alternative program like the one at TCAT. The program offered at TCAT, however, does not offer the specific certifications required of job applicants for the aforementioned FedEx positions. In fact, it is billed as a "measurable skills gain leading to a credential."[20] So, if a job seeker is looking for a certification required for a position like the ones at FedEx but cannot secure a seat at a program like the one at CodeCrew, it is likely the case that they will look for an alternative program, even if it will not guarantee them a gainful employment opportunity in their desired field of work.

This leads into another portion of the problem, which relates to the availability of data on career training programs for potential students. The state of Tennessee requires reporting on student demographics, completion rates, and job placement rates as a requisite for receiving WIOA funds and for the program to be placed on the state's "Eligible Training Provider List" (ETPL). These reports, however, do not tell the full story of each program's outcomes, as they are not required to include alumni's wages or expected wages of alumni. For example, TCAT Memphis' Computer Information Technology program reports a 55% job placement rate,[21] but there is no way to know whether those jobs were in sectors that pay a living wage. The data reports are also largely only available on the Tennessee Higher Education Commission's (THEC) website, and they are not featured prominently for potential students. Additionally, there is no intuitive or convenient way for students to compare programs or view forecasted future earnings data when deciding between career training opportunities.

Obstacles

Potential solutions to address the aforementioned problem will need to be examined through the lens of several obstacles. These obstacles can be generally categorized as

[19] "Welcome to Code School." CodeCrew. Accessed September 20, 2021. https://www.code-crew.org/code-school1.

[20] "Tennessee College of Applied Technology at Memphis."

[21] "Job Placement and Licensure Rates." Nashville, TN: Tennessee Board of Regents, 2020.

listed below:

- ***Technical feasibility***: Will the program/policy achieve the purpose? Will it solve the problem it seeks to address or at least take a step toward solving the problem?
- ***Economic and financial feasibility***: What are the costs and benefits? Are there fiscal and/or economic impacts?
- ***Political viability***: Will one or more alternatives be acceptable to those in power? This is often tied to economic and financial feasibility, as most decision-makers will not adopt a program unless there is a clearly defined stream of funding to support it.
- ***Administrative operability***: How possible is it to actually implement the program/policy within the political, social, and administrative context? Is the staffing available? Will employees cooperate in delivering the service? Do we have the physical facilities necessary? Can it be done on time?

Each potential solution to the problem will be evaluated using these criteria in the analysis that follows.

Success

To reiterate the problem: Many career training programs in Memphis boast high quality curricula aligned with workforce standards and produce results demonstrated through career placement of alumni in high-demand, high-paying jobs within the industry of study. Others, however, benefit from offering lower-cost programs that may not be as aligned with workforce standards in high-paying industries, as well as limited capacity of higher quality programs. There is very little distinction between these two types of programs within the state of Tennessee's One-Stop Operator site with regards to quality of programs, data available, and availability of federal funding for student aid. Essentially, the onus is placed on potential students to determine which programs will help them achieve the educational and career outcomes they desire, without available data or transparency of oversight.

As such, any solution to this problem should address and strengthen the pipeline from career training to gainful employment. That is, there should be an accurate measure of how many trainees are going from credentialing or certification and transitioning into a high-paying job within their industry of study. Likewise, this measure must be based on a standard definition of "high-paying jobs." For the purposes of this analysis, we will rely on the Massachusetts Institute of Technology's annual calculations of living wages by family size, number of working adults, and county location.[22] For instance, a living wage for a single adult with no children in Shelby County in 2021 amounts to $13.28 per hour, while an adult with one child would need to earn $26.52 per hour to make a living wage. Of course, there is a difference between a living wage and a high wage, including

[22] "Living Wage Calculation for Shelby County, Tennessee." Living Wage Calculator, 2021. https://livingwage.mit.edu/counties/47157.

differences in disposable income, investment opportunities, and savings. But given the potential inaccuracies associated with standardizing these categories across different lifestyles, we will base our analysis on living wages.

Given these stipulations, analysis of solutions to the stated problem should be judged on each option's likelihood of improving the connection between career training and full-time jobs that pay living wages within a trainee's industry of study.

Solutions

Do nothing.
To set a control example in this analysis, one potential solution to evaluate is the simplest one: do nothing. This involves no new programs, funding, oversight, or changes to anything related to workforce training programs or jobs. In this way, the problem will either persist or go away on its own.

Redefine business incentives.
Though the problems identified in this analysis largely focus on the career training side of the workforce equation, the solution may yet lie in the business side of it. One such solution could involve tailoring business tax incentives such as PILOTs (payments in lieu of taxes)[23] to more specifically benefit businesses that are creating high-demand, full-time jobs that pay at least a living wage. More specifically, PILOT awards in Memphis and Shelby County could prioritize businesses that partner with career training programs that create a guaranteed work pipeline and guarantee alignment of training programs with industry standards. One such example of this type of partnership that exists in Memphis is through Moore Tech's Automotive Service Technology program, which pairs students with a local car dealership in their last year of study for on-the-job training.[24]

Expand Tennessee Promise funds to career training programs.
One solution to address the specific problem of affordability of career training is to expand Tennessee Promise[25] – Tennessee's last-dollar community college scholarship – to career training programs to make certifications more affordable. Currently, Moore Tech is one of only a few private entities that is eligible for TN Promise funding, as it received a special waiver for its available associate degree programs.[26] Expanding this to career training programs that do not offer associate degrees would require a change to

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[23] "Payments in Lieu of Taxes." U.S. Department of the Interior, June 24, 2021. https://www.doi.gov/pilt#:~:text=Payments%20in%20Lieu%20of%20Taxes%20(PILT)%20are%20Federal%20payments%20to,Federal%20lands%20within%20their%20boundaries.&text=The%20law%20recognizes%20the%20financial,taxes%20on%20federally%20owned%20land.

[24] "Automotive Service Technology (AAT)." Moore Tech. Accessed September 20, 2021. https://www.mooretech.edu/programs/automotive-service-technology-aat/.

[25] "Tennessee Promise." Tennessee State Government. TN Higher Education Commission and Student Assistance Corporation. Accessed September 20, 2021. https://www.tn.gov/tnpromise.html.

[26] "Eligible Post-Secondary Institutions." TN Achieves. Accessed September 20, 2021. https://tnachieves.org/resources/eligible-institutions/.

the allocation structure of TN Promise and require eligible training providers to apply for funding through the program. This could, conceivably, increase the affordability of career training, as the last-dollar scholarship would cover expenses that other existing funding does not.

Amend the state and local WIOA plans.

Every few years, the state of Tennessee's Workforce Development Board evaluates, amends, and resubmits the state's WIOA plan, in accordance with federal requirements.[27] Among other portions of the plan, this document includes the governance and oversight structure spanning the state and localities related to WIOA-related programs and functions, as well as the approval requirements for career training providers seeking to be placed on the state's Eligible Training Provider List (ETPL). Eligible training providers must meet minimum performance criteria, as approved by the state board, which includes at least a 40% completion rate for each program and a 70% job placement rate, as well as accreditation by the relevant entity governing the program.[28] Programs must report these measures, as well as student demographics, to the Tennessee Higher Education Commission on a yearly basis.

Training providers on the state's ETPL are then reviewed by each locality's Workforce Development Board and chosen for inclusion in the local ETPL based on, among other points, the training provider's alignment with the board's review of in-demand jobs in the local area. Essentially, the Greater Memphis Local Workforce Development Board can pick and choose which providers on the state's ETPL will fulfill a local need in the Memphis area, and those providers will be included in the local ETPL. Students enrolled at eligible training providers receive $4,000 from the Greater Memphis Local Workforce Development Board, which was allocated by the state through the federal government, for use in covering program expenses. This funding can only be used in the last year of a program and does not apply for single year programs. Both the $4,000 limit and the program year limit are local Memphis stipulations. [29]

A few additions to the state and local WIOA plans could improve the pipeline from high-quality training to full-time jobs that pay a living wage in relevant industries:

State Plan:

- Add additional requirements for ETPL inclusion at the state level. One such requirement, modeled off of the Illinois state plan,[30] would require each training

[27] "The Workforce Innovation and Opportunity Act State Plan." WIOA State Plan Portal. United States Department of Education. Accessed September 20, 2021. https://wioaplans.ed.gov/.

[28] Tennessee PYs 2020-2023

[29] Local Workforce Development Board of the Greater Memphis Region, Program Year 2020-2022 Local Plan for the Greater Memphis Region § (2020). https://www.tn.gov/content/dam/tn/workforce/documents/wfs/2020GreaterMemphisLocalDRAFTPlan.pdf.

[30] 2020-2024 State of Illinois WIOA Unified State Plan § (2020).

program to list three jobs that a recipient of the program's certification would be eligible to hold immediately after completion. Taking it one step further, the state could require that programs receive approval of the employers listed to ensure more alignment between curricula and workforce standards. This process will need to be locality-specific, as the jobs available in Knoxville will not be the same jobs available in Memphis or Nashville.

- Data reporting for programs can be improved by requiring that programs report the mean and median earnings of their alumni, as well as the industries in which they are placed. Additionally, the currently reported data of job placement rates should be expanded to include placement rates for all students after exiting the program, including those who did not complete the program. Currently, THEC provides the data reports submitted yearly by programs on its website. Users must search specifically for each program, making it difficult to directly compare similar programs. The state – though it may already do this – could gather the data and create a comprehensive, readily available report including data from each program every year. This would give students more information in choosing an adequate training program that suits their needs and budget.

Local Plan:

- One potential change to the local administration of WIOA is to reevaluate the standard $4,000 per student funding for each program. Clearly, some programs produce better results and place students in higher paying jobs than others. The Greater Memphis Local Workforce Development Board could adopt a tiered system of funding for these programs modeled loosely off of THEC's Quality Assurance Funding. The premise of this system is that any Institute of Higher Education (or in this case, career training program) that exceeds quality measures in key areas is eligible for additional public funding.[31] Programs meeting a certain threshold of career placement and alumni salaries would be eligible for the standard $4,000 funding, while those going above and beyond would be eligible for incrementally more. The reverse would be true of those performing lower than average. This would ensure that funding is being prioritized and optimized for programs best serving students and the workforce.

Solution Analysis

In determining the effectiveness of each solution, we must evaluate the obstacles to, and potential success of, each proposed solution. As a reminder, these obstacles are generally categorized as technical feasibility, economic and financial feasibility, political

https://www.illinoisworknet.com/WIOA/Resources/Documents/Updated%20Final%20USP%20Plan%20Document.pdf.

[31] "Quality Assurance Funding." Tennessee Higher Education Commission. Accessed September 20, 2021. https://www.tn.gov/thec/bureaus/academic-affairs-and-student-success/academic-programs/quality-assurance-funding.html.

viability, and administrative operability. The success metric each solution will be judged by is its potential to improve the pipeline between high-quality training and relevant industry jobs that pay living wages.

Do nothing.

This solution's political viability depends on the perspective of each decision-maker. For some, nothing is more politically viable than doing nothing. For others, the opposite is true, particularly when the status quo negatively impacts their constituents. As for the solution's economic and financial feasibility, it is true that nothing is more financially feasible than doing nothing. There will be no program to fund and, thus, no direct financial roadblocks pertaining to this potential solution. The same is true of potential questions of administrative operability, as there will be no program to implement administratively. The economic feasibility of this solution, however, is a different subject entirely. As mentioned earlier in this analysis, Opportunity Youth represent direct costs associated with public services provided by the City and County. In this way, the problems experienced by Opportunity Youth are not only personal and often overwhelming but will likely compound and continue to present a cost to local governments. Disconnected youth are more likely to experience poverty and homelessness, as well as interact with the criminal justice system, and continued disconnection increases the likelihood of these scenarios. Finally, this solution fails in the most crucial category of potential obstacles: technical feasibility. With no active solution to the problem, the gaps identified will certainly not be addressed.

Redefine business incentives.

The technical feasibility question for this solution is one that is hard to answer. Historically, economists have argued that tax incentives for businesses do not provide the value that each locality assumes they will provide.[32] These tax incentives, however, are already in place in Memphis and Shelby County. Amending the incentives to mandate a more coordinated alignment between businesses and career training programs may improve the economic outlook of the incentives, as well as take a step toward solving the problem. But the issue here lies in the political viability of the solution. Any amendment to the City and County PILOT programs would have to be approved by each entity's legislators, who have historically been opposed to any reform to the program.[33] This points to the likelihood that any change to tax incentives would have to supplement the money that Memphis and Shelby County are already losing to these incentives,

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[32] Garofalo, Pat. *The Billionaire Boondoggle: How Our Politicians Let Corporations and Bigwigs Steal Our Money and Jobs*. New York, NY: Thomas Dunne Books, an imprint of St. Martin's Press, 2019.

[33] Steimer, Jacob. "Economic Development Committee Shoots down PILOT Moratorium." *Memphis Business Journal*, January 20, 2021. https://www.bizjournals.com/memphis/news/2021/01/20/commission-shoots-down-pilot-moratorium.html .

posing an additional financial barrier. Essentially, it is more likely that legislators will approve additional PILOT revenue loss rather than amending the current process.

Expand Tennessee Promise funds to career training programs.

The technical feasibility of this solution is minimal, at best. There is no guarantee that additional funding for students to use toward career training would result in higher quality programs or better alignment with quality jobs. Additionally, the political viability is shaky given the fact that any change to TN Promise must be passed by the state General Assembly, and additions to eligible funding recipients would pose enormous financial feasibility barriers. Finally, oversight of additional programs under the TN Promise structure would pose further administrative operability questions.

Amend the state and local WIOA plans.

Beginning with the political viability of this solution, it is important to note that there is an existing process for updating state and local WIOA plans. The current Tennessee plan expires in 2023, so the process to begin drafting the next state plan will begin soon. In addition, this area is not subject to legislative barriers, but rather to approval by the state's workforce development board. As for financial feasibility, the state plan portions of the solution outlined above would have little to no fiscal impact. The local portion may or may not have a fiscal impact, depending on the distribution of programs that qualify for each threshold of quality funding. As for administrative operability, this may pose a slight barrier due to increased reporting requirements resulting in additional oversight efforts. The same is true of state staff capacity to produce a report comparing effectiveness, cost, and median earnings of each program. Finally, this solution is the most likely to achieve the success metric outlined above. It ensures closer alignment between program curricula and industry standards through new ETPL requirements, prioritizes funding for higher quality programs, and creates a transparent reporting mechanism to inform potential students of the benefits and drawbacks of each career training program.

Recommendation

Given multiple benefits of the WIOA solution outlined above, we recommend that the Tennessee Workforce Development Board and the Greater Memphis Local Workforce Development Board adopt these amendments to the respective WIOA plans.

We know that a majority of Opportunity Youth in Memphis hold a high school diploma or equivalency, and Shelby County has a population of over 170,000 who possess some

college education and no degree.[34] The logical next step for many of these youth is to seek some form of career training that leads to gainful employment. We also know that not all career training programs are equal in completion and job placement rates or career earnings. In addition, it's difficult for potential students to determine the most effective programs to attend – given the lack of transparent data – leaving them open to potentially attending a costly program that does not yield their desired career and salary trajectories.

Adding a requirement for programs included in the state ETPL to list three jobs that students would be eligible to hold after gaining the skills taught through the program and requiring that these programs receive approval from those employers will ensure a more streamlined alignment between program curricula and workforce standards. Improved data reporting and sharing will help potential students make the best decision for their career paths, particularly if they are made aware of the relationship between the cost of each program and projected earnings after completion of the program.

At the local level, the Greater Memphis Local Workforce Development Board has the authority to determine the level WIOA funds available to students of each program. By creating a tiered system of funding, the local board can prioritize more funding for students who attend higher quality programs, while encouraging programs not in that priority list to improve their curricula and pipeline from training to gainful employment. The local board may also consider adding an additional requirement for receiving a higher level of funding that takes a step toward a guaranteed job pipeline. For instance, the Florida state WIOA plan requires that applicant programs for the state's ETPL note "whether the provider has developed the training in partnership or collaboration with a business or industry," and asks them to identify that business or industry.[35] The Greater Memphis board may consider adopting a requirement that programs seeking to be placed in a higher tier to receive additional WIOA funds develop their programs in collaboration with businesses or industries identified as ones where employees would receive a living wage.

These recommendations, together, represent a significant step toward aligning career training programs with quality jobs, as well as ensuring that potential students have the information that they need to make the best decisions for themselves.

One important drawback to note, however, is the anecdotal evidence that the local workforce board has available WIOA funding that they are unable to spend due to lower than projected demand for career training. While this recommendation does not directly address this issue, it may be the case that the improvements provided here, coupled with effective communication about the changes, will help to improve demand for career training locally.

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[34] *The Pipeline to Community and Technical Colleges*.

[35] Florida Division of Workforce Services, WIOA Eligible Training Provider List § (2016). https://careersourcegc.com/uploads/wioa_etpl_policy.pdf.

Conclusion

Memphis, Tennessee's well-documented problem of disconnected youth is not one that will be solved with a single policy. Given the wide age range and diversity of education level, race, income, criminal background, and other characteristics present in the population, no single solution will likely affect the entire population. One area of enormous potential in which to invest time and effort to improve reconnection is in career education. This area is extremely complicated, given the multiple levels of funding and oversight and uneven quality of programs, which is made worse by a lack of full data transparency. State and local officials can utilize WIOA, the largest federal investment in workforce development, to ensure that the state and local economies better fit the needs of all participants. We can ensure that students have the information they need to make informed decisions, quality career training programs receive the resources they need to effectively educate their students, and businesses have a wealth of talented potential employees from which to hire.

Making Tennessee's College Students More Food Secure

Matthew McCaffrey

Abstract

Given the mission-focused nature of the state's postsecondary aims, education's potential for profound individual and family-level impacts, and the persistent challenge to remain economically competitive, Tennessee has proactively engaged in postsecondary policy innovation. Key developments in recent years include the Complete College Tennessee Act and the Tennessee Promise and Reconnect Scholarships. This memo explores potential postsecondary public policies that will help Tennessee, and Memphis, remain competitive and innovative. These policies focus on a key demographic of college students–students of low income. This memo explores retention and attainment gaps between students of low income and their economically more-advantaged peers. Based on those gaps, and the need to enhance student persistence, three potential policy interventions are considered–local student housing voucher programs, a statewide expansion of SNAP benefits to qualify more students, and local university transit pass programs. Ultimately, this memo recommends a statewide expansion of SNAP eligibility that would exempt students, enrolled in any academic programs designed to enhance their employability, from meeting the traditional 20-hour weekly (80-hour monthly) work requirement. This change could connect thousands of college students of low-income, across Tennessee, to federal food subsidies that will reduce rates of food insecurity, boost grades and credit completion, and ultimately, lead to persistence and credential and degree attainment.

Background

Policy makers have long heralded higher education as a great equalizer. Regardless of where on the socio-economic ladder a child is born–the argument goes–a college degree can unlock opportunities to access the middle class or beyond. While stable employment with a living wage was once possible without such advancement, Tennessee's Higher Education Commission (THEC) writes, "...postsecondary education has replaced high school as the gateway to a middle-class life."[1] A postsecondary education, THEC further argues, does not just offer opportunities to individual graduates. College completion can set off a generational chain reaction–a virtuous cycle of social and economic mobility. Given this immense promise, the state of Tennessee acknowledges something more than just responsibility for the higher education system. Former THEC Executive Director Mike Krause puts it simply: "The profound impact of a college degree on even one student would make the effort worthy, but when the multi-generational effects are

[1] Tennessee Higher Education Commission. 2014. "Postsecondary Attainment in the Decade of Decision: The Master Plan for Tennessee Postsecondary Education 2015-2025." Page 5

considered, meeting the task ahead is not just the obligation of public higher education, it is a moral duty."[2]

The lofty assertions of policymakers notwithstanding, what do the data say? The US Bureau of Labor Statistics regularly releases earnings and unemployment rates based on educational attainment. These statistics underscore a prosaic intuition: with more education comes greater income. Americans with a high school diploma, for example, can expect weekly earnings of around $781–compared to $938 for those with Associate's Degrees and $1,305 for those with Bachelor's Degrees. Individuals without college degrees are also more likely to find themselves unemployed.[3] In 2020, the unemployment rate was 9 percent for those with a high school diploma, but 7.1 percent for those with an Associate's Degree and 5.5 percent for those with a Bachelor's Degree.[4]

Empirical research strikes a similar tone. The recent sociology and economics literature abounds with studies addressing education's relationship to social and economic mobility. Such mobility has at least two definitions: 1) The likelihood that individuals will lead lives healthier and wealthier than their parents, and 2) the odds that a child born into a lower socioeconomic bracket will ascend into higher levels as an adult. At issue are fundamental questions about the existence and strength of the American Dream. Chetty, et al. find that colleges across the country boost the social mobility rate. In particular, their research demonstrates that institutions that are able to create access for low-income groups and achieve high rates of degree completion can increase, by threefold, the likelihood that a student will move from the bottom to the top of the income distribution.[5] Espinosa, et al., extend this research to demonstrate that minority-serving institutions are especially adept at fostering mobility.[6]

With high specificity, Creussere and co-authors bring these mobility impacts into sharp relief: a study of over 98,000 students in the University of Texas system reveals that 84.9 percent of college completers in the lowest income quintile move into a higher quintile five years after leaving school; just 58.5 percent of those from lowest quintile

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[2] THEC-TSAC. 2020. "Enabling the Competitive Edge: Tennessee Higher Education in the New Economy: Master Plan Update 2020." Tennessee Higher Education Commission and Tennessee Student Assistance Corporation. Quoted from Introduction letter from Executive Director of the Tennessee Higher Education Commission Executive Director, Mike Krause, Page 3.

[3] "Education Pays : U.S. Bureau of Labor Statistics." n.d. Accessed September 20, 2021. https://www.bls.gov/emp/chart-unemployment-earnings-education.htm.

[4] Ibid.

[5] Chetty, Raj, John N. Friedman, Emmanuel Saez, Nicholas Turner, and Danny Yagan. 2017. "Mobility Report Cards: The Role of Colleges in Intergenerational Mobility." Working Paper 23618. Working Paper Series. National Bureau of Economic Research. https://doi.org/10.3386/w23618.

[6] Espinosa, Lorelle L., Robert Kelchen, and Morgan Taylor. 2018. "Minority Serving Institutions as Engines of Upward Mobility." American Council on Education: Center for Policy Research and Strategy.

who enrolled, but did not complete their degree, moved up the ladder.[7] The same held true for students in the second-lowest income group: 69.4 percent of completers moved up one or more quintiles 5 years after graduation, compared to just 25.7 percent of non-completers. "While completing a degree is not necessarily mandatory for experiencing an earnings boost, receiving a baccalaureate degree clearly increases the likelihood of upward mobility."[8] Overall, the researchers find that degree completion is associated with 23 percent higher earnings.[9]

The logic of individual social and economic mobility also has community and regional consequences. The state of Tennessee has long emphasized the importance of a well-educated workforce. The Drive to 55 goal–supported by the Drive to 55 Alliance of private business, non-profit, and college partners–aims to ensure that 55 percent of Tennesseans have a college credential or degree by 2025. The alliance explicitly connects college attainment to competitiveness: "[Drive to 55] is not just a mission for higher education, but a mission for Tennessee's future workforce and economic development."[10] Through its Outcomes-Based Funding Model, THEC puts these priorities into practice: public institutions are evaluated and funded based on success metrics such as workforce development and job placement.

These economic development priorities align with what Drucker calls the traditional outputs of American higher education: new knowledge and educated workers.11 In addition, Good and La Prad point out reports and case studies connecting the education level of a workforce with attracting business, economic growth, and higher productivity.[12] Larger-scale statistical analyses reinforce this case. Abel and Deitz demonstrate that regions with higher degree production have higher levels of human capital–i.e., a more skilled workforce.[13] This finding supports a Gottlieb and Fogarty study of over 250 metropolitan areas; their analysis concludes that regions with higher educational attainment tend to have higher per-capita income and lower unemployment rates.[14]

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[7] Creusere, Marlena, Hengxia Zhao, Stephanie Bond Huie, and David R. Troutman. 2019. "Postsecondary Education Impact on Intergenerational Income Mobility: Differences by Completion Status, Gender, Race/Ethnicity, and Type of Major." *The Journal of Higher Education* 90 (6): 915–39. https://doi.org/10.1080/00221546.2019.1565882.

[8] Ibid., page 933

[9] Ibid.

[10] "The Alliance." 2014. *Drive to 55 Tennessee* (blog). August 6, 2014. https://driveto55.org/the-alliance/.

[11] Drucker, Joshua. 2016. "Reconsidering the Regional Economic Development Impacts of Higher Education Institutions in the United States." *Regional Studies* 50 (7): 1185–1202. https://doi.org/10.1080/00343404.2014.986083.

[12] Good, Larry, and Jeannine La Prad. 2013. "Educational Attainment as an Economic Driver for States, Regions and Communities." Michigan State University, Center for Community and Economic Development, EDA University Center for Regional Economic Innovation.

[13] Abel, Jaison R., and Richard Deitz. 2012. "Do Colleges and Universities Increase Their Region's Human Capital?" *Journal of Economic Geography* 12 (3): 667–91. https://doi.org/10.1093/jeg/lbr020.

[14] Gottlieb, Paul D., and Michael Fogarty. 2003. "Educational Attainment and Metropolitan Growth." *Economic Development Quarterly* 17 (4): 325–36. https://doi.org/10.1177/0891242403257274.

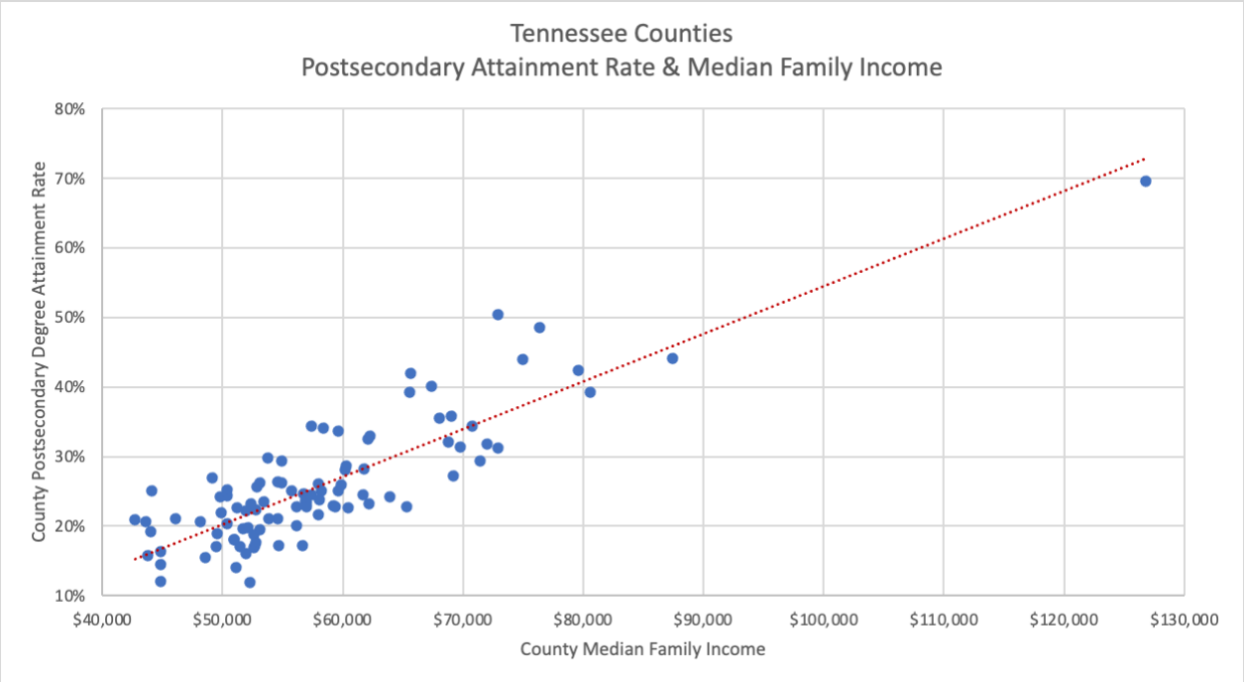
Given the mission-focused nature of the state's postsecondary aims, education's potential for profound individual and family-level impacts, and the persistent challenge to remain economically competitive, Tennessee has proactively engaged in postsecondary policy innovation. Key developments of recent years include the Complete College Tennessee Act and the Tennessee Promise and Reconnect Scholarships. As this memo will demonstrate, in order to continue its progress, the state should continue such innovation. In particular, Tennessee should pursue policy changes that will support a key group of students, heretofore lagging in terms of postsecondary enrollment, persistence, and credential attainment–students from low-income backgrounds.

Problem Statement: Supports for Low-income Students

Organizations such as the Education Trust and Temple University's Hope Center for College, Community, and Justice argue that much postsecondary public policy inadequately considers the needs of historically underserved students. In an Education Trust report, Jones and Berger celebrate federal policies such as the Morrill Act, the GI Bill, and the Higher Education Act of 1965, but also point out that these achievements have been plagued by inequities that foster disparate outcomes.[15]

Some of these disparate outcomes are baked into broader social inequality. In Tennessee, like the rest of the United States, postsecondary attainment rates have a strong relationship with family income. Across the state's 97 counties, as median family earnings increase, so too does the county's share of adults holding a postsecondary degree:

[15] Jones, Tiffany, and Katie Berger. 2018. "A Promise Fulfilled." The Education Trust. https://edtrust.org/resource/a-promise-fulfilled/.



Data combined from:
US Census Bureau (2021) 2019: American Community Survey 5-Year Estimates Subject Tables. Accessed at: https://data.census.gov/cedsci/table?t=Income%20%28Households,%20Families,%20Individuals%29&g=0400000US47%240500000&tid=ACSST5Y2019.S1903

Lumina Foundation (2021), A Stronger Nation, "2019 Attainment by County." Accessed at: https://luminafoundation.org/stronger-nation/report/2021/#/progress/state/TN

The relationship between family income and degree attainment (correlation coefficient=.857) suggests that students from lower-earning counties and lower-earning families would benefit from policies to address their particular barriers to postsecondary success.

Among the barriers, the Hope Center emphasizes the importance of basic needs, such as adequate housing and food, as a precondition for postsecondary success. In a survey of administrators at 469 postsecondary institutions, Hope Center researchers find that 86% identify insecurity of basic needs as a driver of non-completion.[16] A separate Hope survey of 86,000 college students reveals that 45 percent are food insecure and 56 percent are housing insecure.[17]

[16] "Student Basic Needs: Institutional Services and Awareness." 2020. AACRAO and the Hope Center for College, Community, and Justice. https://hope4college.com/aacrao-march-2020-student-basic-needs-report/.

[17] Baker-Smith, Christine, Vanessa Coca, Sara Goldrick-Rab, Elizabeth Looker, Brianna Richardson, and Tiffani Williams. 2020. "#RealCollege 2020: Five Years of Evidence on Campus Basic Needs Insecurity." The Hope Center for College, Community, and Justice.

Economic disadvantage and poverty drive basic needs insecurity. Tennessee's postsecondary institutions serve a large number of low-income students. Among Tennessee students who complete a FAFSA, approximately 48% come from low-income families. Community colleges and Tennessee Colleges of Applied technology average low-income enrollment rates of nearly 70%.[18] Despite this, Tennessee's financial aid policy rewards merit significantly more than need–just 18 percent of the state's financial aid dollars are distributed solely based on need.[19] Moreover, while Tennessee Promise does cover tuition expenses not covered by other federal and state aid, tuition is not the only cost that students must bear to attend and succeed in college. The National Center for Education Statistics (NCES) has recently begun surveying postsecondary institutions, nationwide to gather data on the full cost of attendance. Beyond tuition, NCES asks institutions to estimate costs of books and supplies, costs of on- and off-campus room and board, expenses incurred by students living with their families, and other expenses. The results for Tennessee's institutions show that tuition is only half the battle. At community colleges, students who live with their families must come up with an additional $5,232 per year after tuition; students living independently can expect non-tuition costs in excess of $13,000.[20] Costs at the state's four-year institutions are estimated to be as high as $16,000 for students living off-campus.[21] In addition, full-time requirements for Tennessee Promise eligibility and work requirements for SNAP eligibility create barriers for low-income students to access programs that could otherwise support their postsecondary success. Finally, limited state appropriations strain institutions' ability to staff student success offices that can facilitate student integration, persistence, and ultimately, attainment.

Success

Tennessee's Drive to 55 framework sets an ambitious target for statewide postsecondary achievement: 55 percent of adults (ages 25-64) holding a postsecondary degree or credential by 2025. The Lumina Foundation combines data from the American Community Survey, internal polling, and other sources to track attainment progress across the country. Currently, 46.8 percent of adults in Tennessee meet the attainment goal–the national average is 51.9 percent.[22]

The path to degree or credential attainment involves several interconnected steps–among them, academic preparation, college access, and college persistence. Persistence,

[18] US Department of Education: College Scorecard. 2020. Accessed February 1, 2021. Downloaded from: https://collegescorecard.ed.gov/data/.

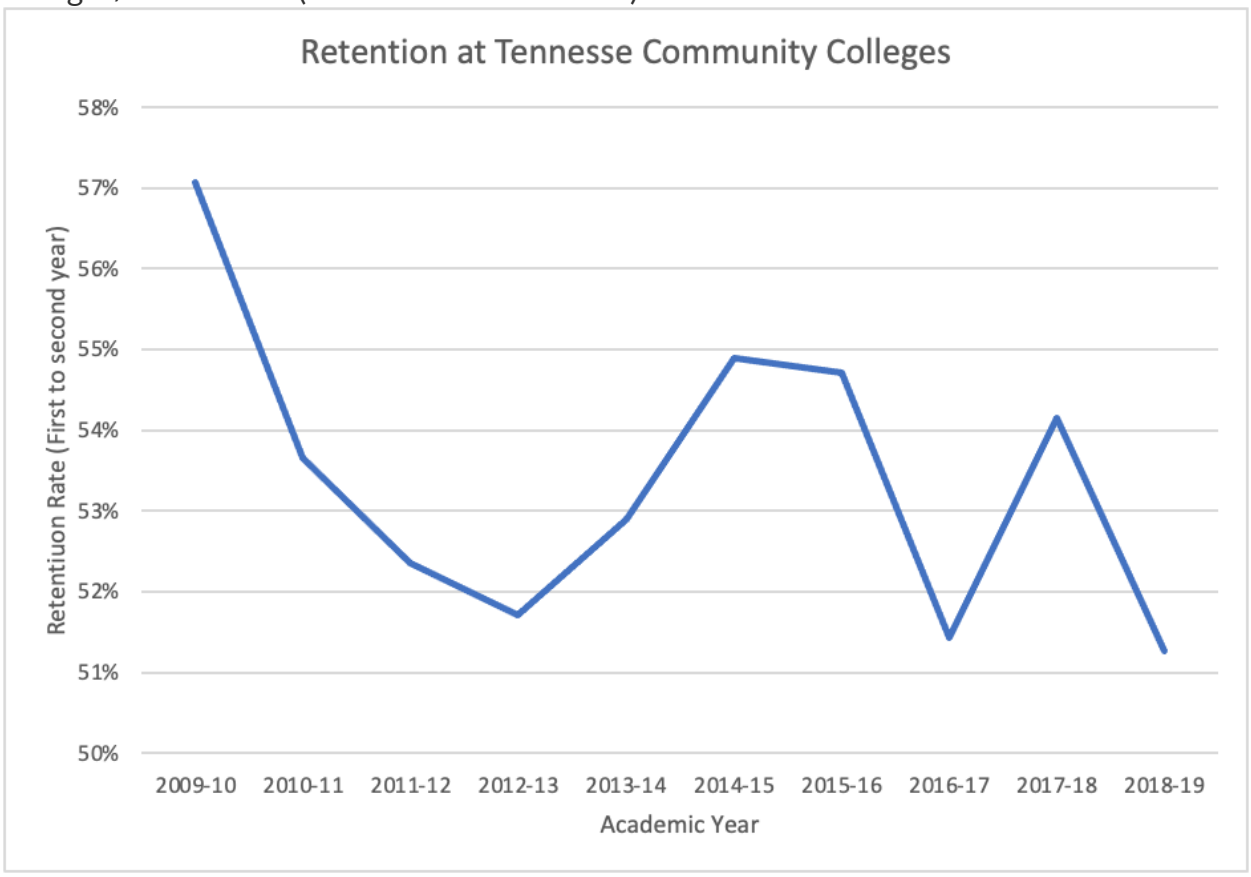
[19] Data Obtained through: National Association of State Grant & Aid Programs. 2018. "NASSGAP Annual Survey." 2018. https://www.nassgapsurvey.com/.

[20] US Department of Education: College Scorecard. 2020. Accessed February 1, 2021. Downloaded from: https://collegescorecard.ed.gov/data/.

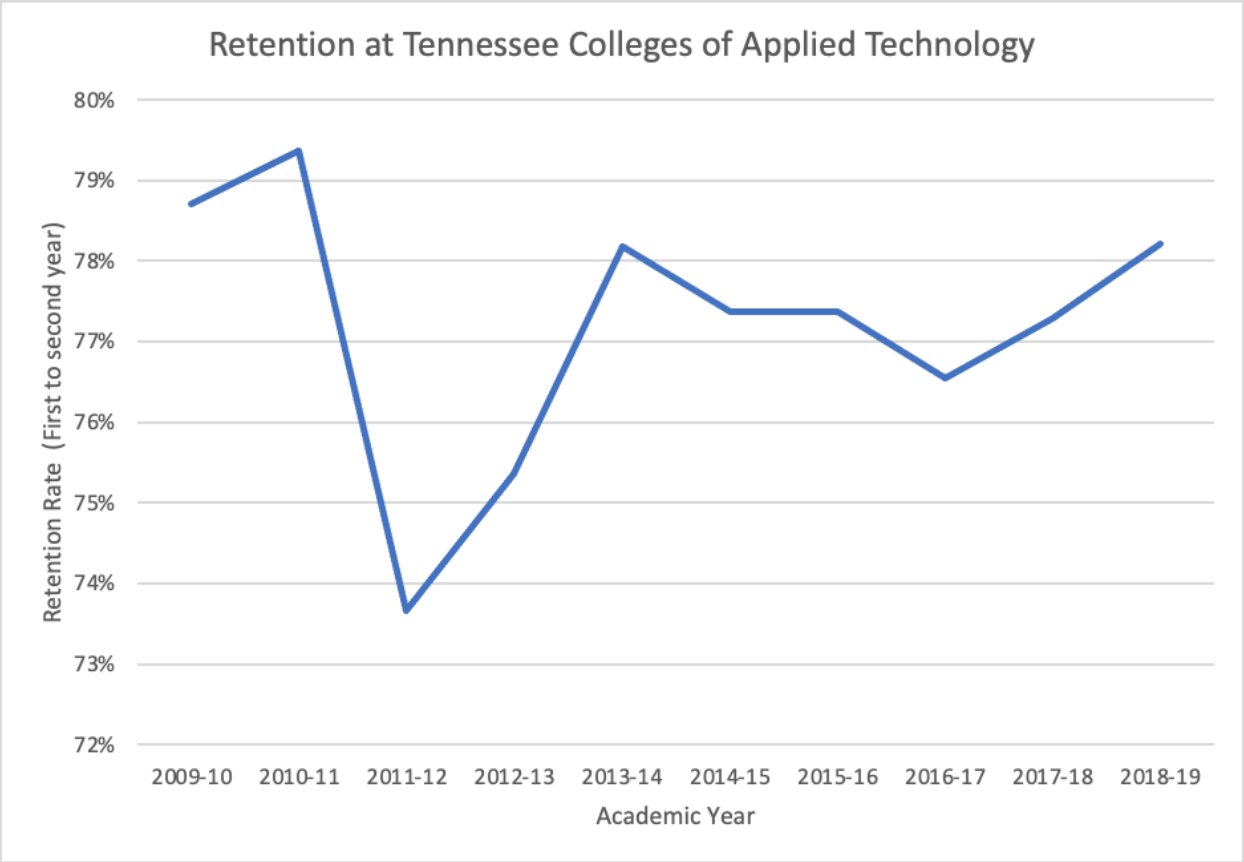
[21] Ibid.

[22] Lumina Foundation. 2021. "A Stronger Nation: Lumina Foundation." Accessed September 20, 2021. http://strongernation.luminafoundation.org.

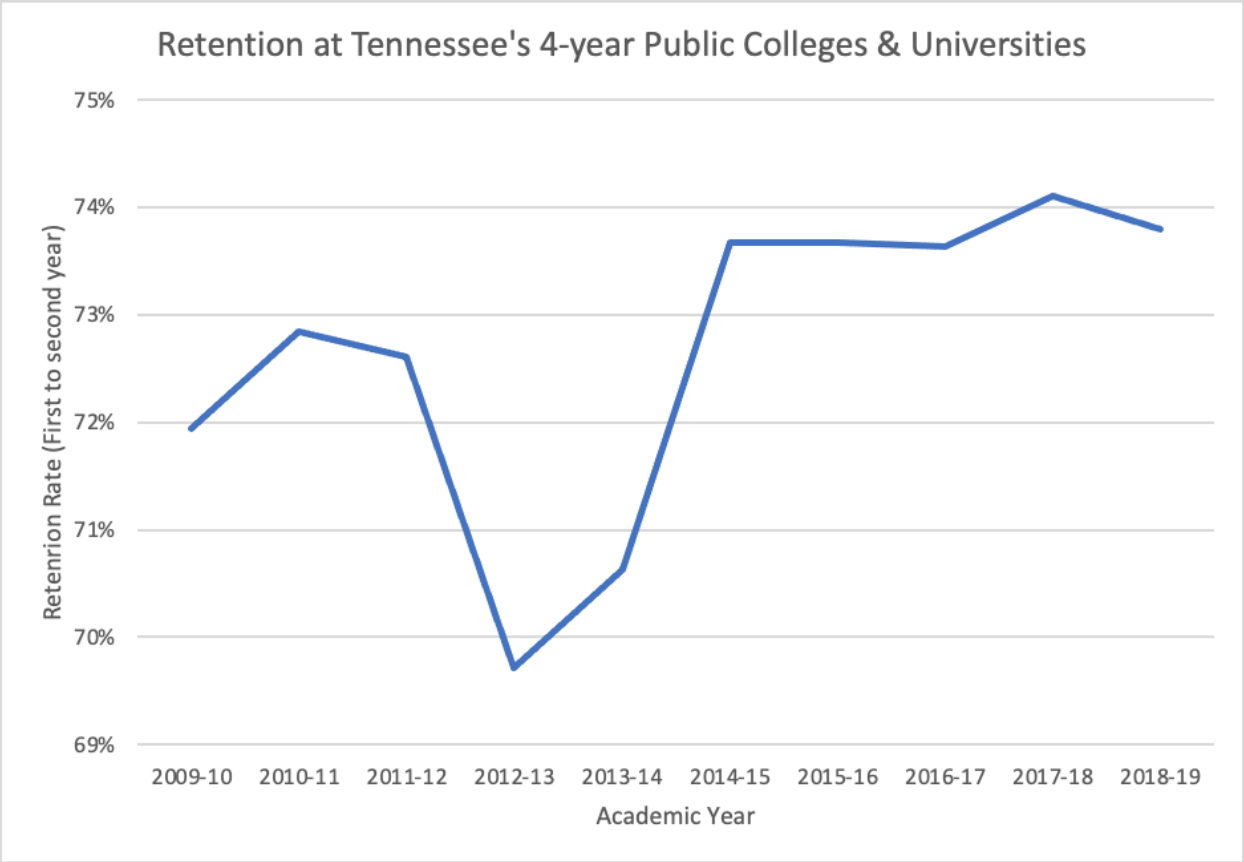
a student's likelihood of continuing through college–semester to semester and year to year, ultimately ending in credential completion–is the factor most in control of government agencies that oversee higher education as well as colleges and universities. Persistence of students is sometimes reported by an institution's rate of retention–the percentage of students that a college or university can keep enrolled one year after first entering the institution. Since the 2010 launch of Drive to 55, Tennessee's retention rates have not markedly improved, and at some institution types, have decreased. The figures below illustrate changes over time in mean institution retention rates. Each figure corresponds one of the three major types of public institutions in the state: 1) Community Colleges, 2) Colleges of Applied Technology, and 3) 4-year colleges/universities (UT and LGI institutions).



Data source:
US Department of Education. 2021. "US Department of Education College Scorecard Data: Institution Level Data Files from 2009 to Present." https://ed-public-download.app.cloud.gov/downloads/CollegeScorecard_Raw_Data_08032021.zip.



Data source:
US Department of Education. 2021. "US Department of Education College Scorecard Data: Institution Level Data Files from 2009 to Present." https://ed-public-download.app.cloud.gov/downloads/CollegeScorecard_Raw_Data_08032021.zip.



Data source:
US Department of Education. 2021. "US Department of Education College Scorecard Data: Institution Level Data Files from 2009 to Present." https://ed-public-download.app.cloud.gov/downloads/CollegeScorecard_Raw_Data_08032021.zip.

The figures above reveal a six-percentage point decline in retention rates at Community Colleges since the 2009-10 academic year. Retention rates at Colleges of Applied Technology, despite fluctuations, appear down slightly compared to 09-10. And rates at four-year institutions are up approximately two percentage points. The figures above do not demonstrate significant progress over time. Indeed, the institution types, Community Colleges and Colleges of Applied Technology, that disproportionately enroll students from low-income backgrounds retain fewer students today than they did prior to the Complete College Tennessee Act and Drive to 55.

Disaggregating the data further demonstrates that students from low-income backgrounds persist at worse rates than their wealthier counterparts. In 2018-19, for example, 25.5 percent of students at public, 4-year institutions who receive a federal needs-based Pell Grant withdrew within two years of first enrollment–compared to just 19.8 percent of students whose family incomes are higher than the Pell threshold. More dramatically, 53 percent of Pell recipients at Tennessee Community Colleges withdrew by two years; just 38 percent of non-Pell recipients did the same. A fifteen-percentage

point difference in a student's likelihood of persistence, based on their family income, is a gap that demands policy change.

Given the inadequate supports for students from low-income backgrounds articulated in the previous section, as well as Tennessee's goal of degree and credential attainment, student persistence and institutional retention metrics can indicate progress. This memo will therefore examine approaches addressing the needs of Tennessee's college students from low-income backgrounds. The forgoing analysis will attempt to assess the degree to which policy alternatives will boost these students' outcomes, particularly regarding college persistence. The Seeding Success Postsecondary Subcommittee will recommend the policy most likely to accomplish this goal, while simultaneously balancing factors such as politics, budgets, economics, and administrative complexity.

Obstacles

A variety of obstacles stands in the way of addressing the needs of students from low-income backgrounds. Below is a breakdown of four major categories of obstacles:

Technical Feasibility: To what extent are there interventions that can boost the persistence of low-income students? How likely are proposed interventions to solve the problem and meet success metrics?

Interventions such as increased financial aid, basic needs assistance, enhanced secondary high-school preparation, dual enrollment programs, and on-campus student support services have all aimed to improve rates of student persistence. Such policies are rooted in theoretical models which articulate a range of academic, social, environmental, and personal factors that shape student outcomes. While some policies–those related to financial aid programs for example–have received significant attention in the empirical literature, other policies and practices have not. Overall, because a student's decision to withdraw from college can often be influenced by a variety of factors, boosting the persistence of many students from low-income backgrounds with a single policy intervention can be challenging. Given gaps in the literature and the complex nature of the phenomenon of student drop-out, evaluation of policy interventions should consider existing evidence, theoretical foundations, intermediate outcomes (such as decreased basic needs insecurity), and the breadth of the intervention.

Economic and Financial Possibility: Are interventions for persistence of students from low-income backgrounds affordable?

Over the past several decades college costs have grown significantly faster than inflation. Tennessee has recently managed to keep the tuition growth at public institutions from rising more than two percent per year. But, even this relatively slower growth is accompanied by growth in financial aid expenditures–as tuition goes up, state aid tries to keep pace. Meanwhile, the state of Tennessee–though not a leader in providing need-based aid–is a national leader in terms of overall student aid

expenditures. With overall aid high, the state might resist any expansion–even if need-based aid would otherwise be the most direct state-level strategy to support students from low-income backgrounds. Additionally, an abiding philosophy of fiscal conservatism among many of the state's most influential leaders means policy change accompanied by a fiscal note could face staunch opposition.

Political Viability: Is there a constituency for the issue?

The Drive to 55 goal provides strong justification for policy interventions that might boost student degree and credential completion. In addition, the cause for students from low-income backgrounds can unite diverse racial and ethnic groups and both urban and rural Tennesseeans. Certain policies, however, might confront philosophical opposition from some state leaders–from those who generally oppose more government intervention or leaders who tend to emphasize individual accountability for postsecondary educational success. Potential policies addressing the needs of students from low-income backgrounds might therefore need to have minimal requirements for additional government intervention and should make a clear case for how they will ensure that individuals can contribute meaningfully to the state and local economy.

Administrative Operability: Are potential policy interventions simple or complex to administer?

Related to potential political opposition to government intervention, policies that require complex or additional layers of bureaucracy may decrease the likelihood of success. Tennessee has bodies that administer higher education programming, but any new policies that would entail additional staff or development of new processes might face opposition. Evaluation of potential policies should consider the extent to which they will be manageable for those charged with implementation. Additionally, analyses should consider how evaluate the degree to which proposals are accessible or administratively burdensome for potential beneficiaries to navigate.

Solutions

In addition to the academic challenges that all students must overcome to succeed in college, those from low-income backgrounds often contend with basic needs insecurity. Low or no access to housing, food, transportation, and other life essentials exerts downward pressure on students' grades, their physical and mental health, and their

likelihood to persist.[23] [24] [25] Policy that aims to address these needs might have the greatest potential to move the needle on degree and credential completion. The following policy alternatives will aim to alleviate basic needs insecurity for students of low income, in order to boost student persistence and success. While potential policies could reform the state's distribution of student financial assistance, this memo will not consider aid interventions. The Seeding Success Public Policy Committee remains committed to its 2021 postsecondary priority–transforming Tennessee Promise from a last- to a middle-dollar scholarship. The alternatives discussed below instead focus on interventions to secure students' basic needs, such as housing, food, and transportation.

Alternative 1: College Student Housing Vouchers

The impacts that housing instability has on personal and professional lives, unsurprisingly can obstruct their progress through higher education. A Hope Center survey finds that 60 percent of students at two-year institutions and 48 percent of students at four-year institutions experience some form of housing insecurity.[26] Forms of housing insecurity examined include inability to pay rent or utilities, moving in with others due to financial problems, and leaving housing due to feeling unsafe. The same survey also finds unsettling rates of homelessness–18 percent of respondents from two-year colleges and 14% from four-year institutions experienced homelessness within the prior year.[27] The experience of homelessness often coincides with other stressors, including lack of access to nutritious food and healthcare and unsafe and overcrowded living conditions. Homelessness impacts students' physical, mental, financial, and academic well-being. Ultimately, homelessness reduces the likelihood of degree completion.[28]

Memphis, a city with one of the nation's highest poverty rates, experiences especially acute housing instability. Per 100 households with incomes below 50% of the area's median, Memphis has 57 available, affordable rental units. This lags behind Nashville and statewide estimates–respectively, with 63 and 66 available, affordable units. In raw numbers, Memphis has a shortage of 38,000 affordable units for households that earn

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[23] Maroto, Maya E., Anastasia Snelling, and Henry Linck. 2015. "Food Insecurity Among Community College Students: Prevalence and Association With Grade Point Average." *Community College Journal of Research and Practice* 39 (6): 515–26. https://doi.org/10.1080/10668926.2013.850758.

[24] Broton, Katharine M., Sara Goldrick-Rab, and Milad Mohebali. 2020. "Fueling Success: An Experimental Evaluation of a Community College Meal Voucher Program."

[25] Goldrick-Rab, Sara, Christine Baker-Smith, Vanessa Coca, Elizabeth Looker, and Tiffani Williams. n.d. "College and University Basic Needs Insecurity: A National #RealCollege Survey Report." Hope Center for College, Community, and Justice.

[26] Goldrick-Rab, Sara, Christine Baker-Smith, Vanessa Coca, Elizabeth Looker, and Tiffani Williams. n.d. "College and University Basic Needs Insecurity: A National #RealCollege Survey Report." Hope Center for College, Community, and Justice.

[27] Ibid.

[28] National Center for Homeless Education. 2015. "Supporting College Completion for Students Experiencing Homelessness." Best Practices in Homeless Education Brief Series. https://nche.ed.gov/wp-content/uploads/2018/10/he-success.pdf.

under 30 percent of the area median income (AMI), and 35,000 for families at 50 percent AMI. Among the four largest metros in the state, Memphis ranks first in proportions of both cost-burdened homeowners (31%–tied with Knoxville) and cost-burdened renters (55%).[29] While these figures are not disaggregated for college students, community colleges and colleges of applied technology across the state have respective enrollment rates of over 60 percent and over 70 percent of students with annual household incomes below $30,000. Just like many other Memphians, college students must navigate the region's affordable housing shortage.

College leaders and housing agencies are beginning to take notice of student housing insecurity. In 2014, Tacoma, Washington's Housing Authority (THA) partnered with Tacoma Community College to pilot a housing assistance program for 25 unhoused students. In subsequent years the program–called the College Housing Assistance Program (CHAP)–grew to subsidize housing for 150.[30] The program is funded by the US Department of Housing and Urban Development's Moving to Work Program. Moving to Work is a special designation given by HUD that provides public housing authorities with greater flexibility to spend federal funds. The program is designed to encourage innovative approaches, such as CHAP.

CHAP works like other housing voucher programs. Applicants must meet the definition of 'homeless' or 'near-homeless' to apply. Preference is given to homeless students, but in the event that more applicants exist than vouchers, a lottery is used for the 'near-homeless.' Unlike ordinary voucher programs, however, CHAP is not income based. Rather voucher awards are fixed–they pay for 50% of a student's housing costs, based on area average rent. Voucher amounts differ based on whether a student has dependents, but the average voucher in 2019 was $533.[31] Though voucher holders sometimes exit the program and not all vouchers are used all months of a given year, in 2019 THA budgeted for roughly $1 million to support all 150 vouchers.[32] The CHAP Program has tended to particularly benefit non-traditional college students and those from more marginalized groups. The average age of CHAP recipients is 27, 64 percent were female, and recipients were disproportionately Black.[33]

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[29] Webb, Morgan, and Joe Speer. 2019. "THDA Housing Indicators: Comparing Tennessee's Cities." Tennessee Housing Development Agency. https://s3.amazonaws.com/thda.org/Documents/Research-Planning/2019_Housing-Indicators_FINAL.pdf.

[30] "College Housing Assistance Program | Tacoma Housing Authority." n.d. Accessed September 20, 2021. https://www.tacomahousing.net/content/tacoma-community-college-housing-assistance-program.

[31] Goldrick-Rab, Sara, Christine Baker-Smith, Kallie Clark, Sonja Dahl, Stephanie Brescia, and Tiffani Williams. 2021. "A First Look at Impacts of the College Housing Assistance Program at Tacoma Community College." The Hope Center for College, Community, and Justice.

[32] Thompson, Aley. 2019. "College Housing Assistance Program 2019 Redesign." Tacoma Housing Authority.

[33] Goldrick-Rab, Sara, Christine Baker-Smith, Kallie Clark, Sonja Dahl, Stephanie Brescia, and Tiffani Williams. 2021. "A First Look at Impacts of the College Housing Assistance Program at Tacoma Community College." The Hope Center for College, Community, and Justice.

Memphis, or other metropolitan areas of the state, could use the CHAP program as a model for its students living in or at risk of homelessness. The Memphis Housing Authority–the local equivalent of THA–would need to go through the process of enrolling in HUD's Moving to Work Program. Currently there are 80 MTW agencies in cities across the country. HUD plans to expand to 59 more Public Housing Agencies by 2022. Upon establishing the program, MHA would need to build a partnership with local postsecondary institutions. An initial pilot should aim to service just one or two institutions. Southwest Tennessee Community College and TCAT Memphis might be strong candidates, given their large enrollment numbers of students from low-income backgrounds. Starting at two-year institutions will also keep costs under control to begin. Over a piloting phase and subsequent expansions, MHA and postsecondary partners should monitor the extent to which vouchers impact student outcomes.

Alternative 2: Expand SNAP Benefits to More College Students

At the state level, food subsidies might hold potential as affordable and scalable interventions. The US Department of Agriculture's Supplemental Nutrition Assistance Program (SNAP) staves off hunger for over forty million Americans each month. Formerly known as Food Stamps, the program's central goal is to, "alleviate hunger and malnutrition by increasing resources for the purchase of food for a nutritious diet."[34] The program's funding, administered by the states, is limited only by the number of eligible applicants. USDA pays for 100 percent of food costs, and 50 percent of each state's administrative costs–states are responsible for the other 50 percent of administrative costs. Such federal funding streams provide opportunity for states not only to support their most vulnerable residents, but also to leverage funds in pursuit of goals such as workforce development and postsecondary attainment.

In 2018 Temple University's Hope Center used an 18-item US Department of Agriculture survey to measure college student food security. Based on a sample of over 86,000 students at colleges across the country, the study found that 45 percent of students met the criteria of 'low' or 'very low' food security. That figure climbed to 47 percent at two-year institutions, where 19 percent of students exhibited 'low' security and 28 percent 'very low.'[35]

Given SNAP's goal to alleviate hunger, why are so many students food insecure? Historically, SNAP rules have limited participation among college students. Federal law

[34] Caswell, Julie A., Ann L. Yaktine, Committee on Examination of the Adequacy of Food Resources and SNAP Allotments, Food and Nutrition Board, Committee on National Statistics, Institute of Medicine, and National Research Council. 2013. *Committee on the Examination of the Adequacy of Food Resources and SNAP Allotments*. *Supplemental Nutrition Assistance Program: Examining the Evidence to Define Benefit Adequacy*. National Academies Press (US). https://www.ncbi.nlm.nih.gov/books/NBK206919/. Page 47.

[35] Goldrick-Rab, Sara, Christine Baker-Smith, Vanessa Coca, Elizabeth Looker, and Tiffani Williams. 2018. "College and University Basic Needs Insecurity: A National #RealCollege Survey Report." Hope Center for College, Community, and Justice.

requires college students, attending at least half time, to meet specific "exemptions" to qualify for assistance. Those exemptions include:

- Participation in a work study program
- Caring for a young child or receiving TANF
- Having a disability or impairment
- Working a paid job for at least 20-hours per week
- Already receiving SNAP and then being placed in a SNAP "employment and training" program

While some students do participate in Federal Work Study–an income-based program that provides students with on-campus jobs–FWS is a first-come first-serve program. Campuses rarely have funding to cover all eligible students. Additionally, the funding is poorly targeted. A 2015 Center for Postsecondary and Economic Success brief points out that eight percent of students participating in FWS have family incomes over $100,000–compared to 16 percent of students with family incomes under $20,000.[36]

Meeting the 20-hour work exemption presents a second barrier. While FWS jobs are often on-campus and can be amenable to student schedules, jobs off campus do not necessarily come with such convenience and flexibility. Some might argue that students should work while enrolled, to defray non-tuition expenses. This view however–the image of a college student going to class in the day, working a full-time job in the evening, and trading sleep hours for study hours–bespeaks a notion of bootstrapping diametrically opposed to research on how students actually succeed. Yes, some students do manage to make it through college under such circumstances. And, yes, part-time employment, in which students work fewer than 15 hours per week, especially in a job related to their career goals, can be beneficial.[37] But, studies have shown that students who work over 15 hours per week have lower grades[38] and lower odds of degree attainment.[39]

The final exemption listed above points toward a policy solution. The SNAP Employment and Training program (SNAP E&T) provides federal support to states to build employment and training related opportunities for individuals receiving SNAP benefits. SNAP E&T can cover a variety of costs associated with moving individuals from low-

[36] Kenefick, Elizabeth. 2015. "Strengthening the 'Work' in Federal Work Study: Improving Access to Financial Aid and Career-Related Work Experience for Low-Income and Post-Traditional Students." Center for Postsecondary and Economic Success and the Center for Law and Social Policy.

[37] Carnevale, Anthony P, and Nicole Smith. 2018. "Balancing Work and Learning." Georgetown University Center on Education and the Workforce.

[38] Ibid.

[39] Perna, Laura. 2010 "Understanding the Working College Student." American Association of University Professors. Accessed September 18, 2020. https://www.aaup.org/article/understanding-working-college-student#.X2Ta25NKiqA.

wage work or unemployment to more gainful employment. SNAP E&T in Tennessee for example, provides participants with education and skills development and auxiliary support such as childcare and transportation subsidies. Individuals participating in SNAP E&T can receive SNAP benefits while enrolled in certain programs and courses at Tennessee postsecondary institutions. Tennessee's current Workforce Innovation Opportunity Act (WIOA) plan estimates that just under 8,000 individuals will participate in SNAP E&T per year.[40] Meanwhile, over 800,000 individuals and over 400,000 households receive SNAP benefits monthly in Tennessee.[41] Meanwhile Tennessee Board of Regents institutions (the state's community colleges and colleges of applied technology) enroll roughly 35,000 Pell-eligible students–Pell eligibility provides a conservative estimate of students of low income.[42]

One reason for SNAP E&T's relatively small 8,000 participants number is that all adults on SNAP are not necessarily working age–some are retired persons. Others do not want or need the employment and training offerings. Another, more salient reason, is that program costs are not exclusively covered by the federal government. Tennessee receives a $2.7 million grant from the USDA. Any costs in excess of that base require a 50 percent state match. Tennessee's estimated annual SNAP E&T budget in the state's WIOA plan is $10.3 million. Of which, the state government covers $3.8 million.[43] A Center for Law and Social Policy (CLASP) brief on SNAP E&T observes, "funding is extremely limited compared to the number of recipients who could potentially be eligible for services."[44] The brief goes on to point out that states that commit to serve broader swaths of its SNAP eligible population typically provide services of lower intensity. Lower intensity services could preclude some college programs.[45]

Despite the challenges of meeting exemptions, one option does exist to connect more Tennessee college students to federal food subsidies. In 1990 congress amended the SNAP program, through the Mickey Leland Food for Peace Act of 1990. The pertinent change, codified at 7 U.S.C. §2015(e)(3)(D) (referred to as 3(D)), permitted an exemption to the 20-hour work requirement for students enrolled in programs, "for the purpose of employment and training operated by a State or local government…"[46] This amendment

[40] "Tennessee Workforce Innovation Opportunity Act State Plan: Years 2020-2023." 2019. Tennessee Department of Labor and Workforce Development.

[41] Tennessee Department of Human Services. 2021. "SNAP Statistical Information." 2021. https://www.tn.gov/humanservices/for-families/supplemental-nutrition-assistance-program-snap/snap-statistical-information.html.

[42] Tennessee Board of Regents. 2021. "Data and Research." https://www.tbr.edu/policy-strategy/data-and-research.

[43] "Tennessee Workforce Innovation Opportunity Act State Plan: Years 2020-2023." 2019. Tennessee Department of Labor and Workforce Development.

[44] Lower-Basch, Elizabeth. 2014. "SNAP E&T." Center for Law and Social Policy. Page 5.

[45] Lower-Basch, Elizabeth. 2014. "SNAP E&T." Center for Law and Social Policy.

[46] Burnside, Ashley, and Parker Gilkesson. 2021. "Connecting Community College Students to SNAP." Center for Law and Social Policy.

was not referencing the SNAP E&T program, rather it applied the terms 'employment and training' in a generic sense. USDA's final rulemaking on the amendment, in 7 CFR 273.5(b)(11)(iv), provided further clarification. A CLASP review of the issue draws three important conclusions from the regulations[47]:

- First, state and locally administered programs should be for low-income households. Given that TBR institutions disproportionately serve low-income students, such programs would qualify; other Tennessee institutions that serve large groups of students from low-income backgrounds might qualify, as well.

- Second, the final regulations state that academic programs can be exempted from the work requirement provided that, "one or more components of the program is equivalent to SNAP employment and training program." As the CLASP brief observes, "The USDA did not expect that all the program components had to meet the SNAP E&T components and confirmed this in response to comments received."[48] One of those SNAP E&T components especially relevant to institutions of higher education, laid out in 7 C.F.R. § 273.7(e)(1), subsection(vi), reads as follows:

  > (vi) Educational programs or activities to improve basic skills or otherwise improve employability including educational programs determined by the State agency to expand the job search abilities or employability of those subject to the program.

  The broad language leaves states flexibility to approve a variety of college programs.

- Third, the USDA delegated authority to state SNAP agencies to determine the state and locally administered programs that would qualify. States do not need USDA or US Food and Nutrition Service (FNS) waivers or pre-approval to make this determination.

Several states have taken advantage of this change. In 2010, Massachusetts opened the door to SNAP benefits for many students in community colleges. The state's rule changes allowed students to qualify for SNAP if enrolled in certificate or associate's degree programs considered "career or technical education" or if the college determines the student will likely be more employable with the degree or certificate. In 2018 Pennsylvania created similar pathways.[49]

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[47] Burnside, Ashley, and Parker Gilkesson. 2021. "Connecting Community College Students to SNAP, Appendix A." Center for Law and Social Policy.

[48] Ibid. Page 4.

[49] Burnside, Ashley, and Parker Gilkesson. 2021. "Connecting Community College Students to SNAP." Center for Law and Social Policy.

Tennessee could expand SNAP access in ways similar to Massachusetts and Pennsylvania. The Massachusetts Department of Transitional Assistance (DTA) created an exemption to SNAP work requirements for those, "enrolled in a career or technical education program or other course of study that will lead directly to employment."[50] Pennsylvania's Department of Human Services (DHS) similarly updated its policy, making SNAP available to, "Students enrolled in a training program that has been deemed comparable to a SNAP E&T activity."[51] This permits students of low income to qualify for SNAP who are enrolled in programs that meet the federal definition of 'career and technical education' (CTE) under the Perkins Act, or a course of study associated with a high-priority occupation (HPO). To simplify administrative processes, Massachusetts relied on institutions of higher education. Massachusetts created a simple form that community college academic advisors and career counselors could fill out to determine whether a student's course of study meets eligibility requirements. Pennsylvania has a similar process. In a state DHS memo, the agency "determined that most courses of study at Pennsylvania's 14 community colleges are comparable to SNAP E&T activity and improve employability which will make some college students eligible for SNAP."[52] The state's Department of Education also regularly gathers lists of community college programs that lead to a high priority occupation. Students in CTE or HPO programs can submit simple proof of enrollment to county human service offices.

Alternative 3: A Shelby County U-Pass Program

Though often considered a low-cost-of-living region, median income residents in the Memphis area[53] spend more of their income on transportation (26 percent) than residents of any other urban region, nationwide (population over 400,000).[54] Annual household transportation costs within the city of Memphis average nearly $11,500.[55] High transportation costs can impose outsize burdens on college students–especially in a city where car ownership is a virtual necessity to run errands, to access employment, and to attend class.

In recent years, the city and county have sought to enhance the Memphis Area Transit Authority. The Memphis Transit Vision Plan, drafted in 2019, maps out a future for MATA. The proposed network redesign, with higher bus frequencies and more efficient routes, aims to "make significant improvements for people to use transit to get to work,

[50] Ibid. Page 7.

[51] Ibid.

[52] Ibid. Page 9.

[53] Based on Core-Based Statistical Areas, a geographic designation that defines urban centers based on the extent of their commuting region

[54] Center for Neighborhood Technology. n.d. "The H+T Index." H+T Affordability Index. Accessed September 20, 2021. http://htaindex.cnt.org/map/.

[55] Ibid.

school, and everyday life destinations."[56] The plan comes with an annual price tag of $30 million. Both city and county mayors have attempted to fund the plan. Immediately prior to the COVID-19 pandemic, county mayor Lee Harris proposed adding approximately $10 million of county funds to MATA's budget through a fee on private automobiles. As negotiations over the measure began heating up, the pandemic set in, introducing uncertainty into local budgeting, and eliminating the political appetite for substantial transit investment.

Transportation is not just important to a region's economy, it also has profound impacts on college students. Clay and Valentine point out that college students can expect to spend one fifth of their total living expenses on transportation.[57] While on-campus housing simplifies commutes for many college students, just 1 percent of community college students nationwide live on campus.[58] And, at postsecondary institutions in Memphis, most students live off-campus.

Many institutions and localities across the country have attempted to support college students by defraying their costs of transportation. A common approach, referred to as 'U-Pass Programs,' subsidizes student use of public transportation. State and local governments sometimes fund U-Pass programs. Because not all students use the programs, costs can be fairly modest.

Transit pass programs for school students are not new in Memphis. During the 2019-2020 school year, Shelby County Schools signed an MOU with MATA to purchase passes for up to 3,000 high-school students.[59] These 3,000 passes roughly equal ten percent of the SCS high school students population. MATA offered the passes, good for the entire school year, for $100 each–a significantly reduced rate.[60] The SCS program provides a model for local colleges and universities. If colleges and universities can negotiate similar terms for undergraduate students, those from low-income backgrounds could have significant support in defraying transportation costs. Memphis has approximately 30,000 undergraduate college students.[61] Given similar-sized populations between SCS high school students and Shelby County undergraduate students, a pilot U-

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[56] Jarrett Walker and Associates. 2019. "Memphis 3.0 Transit Vision Recommended Network and 2040 Transit Vision." Innovate Memphis and the City of Memphis. Page

[57] Clay, Janelle R., and Jessa L. Valentine. 2021. "Impact of Transportation Supports on Students' Academic Outcomes: A Quasi-Experimental Study of the U-Pass at Rio Hondo College." Hope Center for College, Community, and Justice.

[58] American Association of Colleges. 2016. "Data Points: On Campus Housing." https://www.aacc.nche.edu/wp-content/uploads/2017/09/DataPoints_No23.pdf.

[59] "Memorandum of Understanding Between Shelby County Schools and Memphis Area Transit Authority." 2019. https://go.boarddocs.com/tn/scsk12/Board.nsf/files/BECT5C75AB34/%24file/Memphis%20Area%20Transit%20Authority%20MOU%20-%20LEGAL%20SIGNATURE%20-%2023July19.pdf.

[60] Ibid.

[61] US Department of Education. 2021. "US Department of Education College Scorecard Data: Institution Level Data Files from 2009 to Present." https://ed-public-download.app.cloud.gov/downloads/CollegeScorecard_Raw_Data_08032021.zip.

Pass program might require 3,000 passes to be purchased and made available. Given the county's recent attempt and failure to fund MATA, subsidizing a postsecondary MATA pass program could also offer tangible policy progress.

Solutions Analysis

The analysis below will review each solution with respect to their likelihood to meet the success metrics and overcome the obstacles identified above. Below is a discussion of each of those items:

Success Metrics and Technical Feasibility: Which alternative will best solve the problem and meet student retention and success criteria?

Housing Voucher Program: While hypothetically, housing supports should provide a boost across student success metrics, few empirical studies have sussed out the evidence. Tacoma's internal evaluations of the 2014-16 results of its pilot are promising. The Housing Authority notes that 60 percent of students who received housing assistance remained enrolled, while just 16 percent who did not receive assistance did so.[62] THA data reveals a difference in GPAs, too–3.05 for assistance recipients, compared to 2.75 for those without housing assistance.[63] However, THA's reporting does not clearly indicate its data collection methods or definition of the 154 students who were "without housing assistance." Goldrick-Rab and colleagues conducted a more rigorous, third-party evaluation. Their findings are somewhat more sober. The study focused on academic years 2017-18 and 18-19.[64] First, the research found that many students who were offered vouchers ultimately did not use them. The program required students to complete a complex HUD application. Additionally, upon completing the application, students ran into challenges finding housing in accessible locations and finding affordable units (the voucher only covers 50% of a unit's costs). Many landlords did not rent to voucher holders and viewed the students as risky tenants. Ultimately, fewer than half of the students approved for a voucher were actually housed with a voucher. The research also finds data on academic impacts–GPA and persistence–inconclusive. The researchers do not conclude that the program is ineffective. But, more data is needed to better understand its impacts.

SNAP Expansion: When Massachusetts expanded college student SNAP exemptions, the Massachusetts Law Reform Institute estimated that the change could impact roughly

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[62] Tacoma Housing Authority. 2021. "College Housing Assistance Program: Project Summary by the Tacoma Housing Authority." https://www.tacomahousing.net/sites/default/files/tha_-_chap_project_summary_2021-1-8_1.pdf.

[63] Ibid.

[64] Goldrick-Rab, Sara, Christine Baker-Smith, Kallie Clark, Sonja Dahl, Stephanie Brescia, and Tiffani Williams. 2021. "A First Look at Impacts of the College Housing Assistance Program at Tacoma Community College." The Hope Center for College, Community, and Justice.

half of the state's 50,000 community college students. The policy expanded access and, "Reduced the guesswork and paperwork for these students to access SNAP benefits."[65] If students can access food subsidies, evidence suggests they will benefit academically. In an experimental program evaluation, Broton and colleagues found that students who received meal vouchers attempted and completed more credits than their control group peers.[66] A separate study of Maryland community college students finds that food insecure students are more likely to report lower GPAs than their food secure counterparts.[67] While credit completion and GPA do not equal retention, these are both critical markers of academic progress that correlate with retention.

U-Pass Program: Literature on U-Pass programs tends to focus on administration, management, and urban mobility.[68] [69] However, some research exists on U-Pass program impacts on student success outcomes. Clay and Valentine examine a U-Pass program at a community college in the Los Angeles metro area–Rio Hondo College.[70] This quasi-experimental study found that the college's reduced-fare transit program has positive impacts on several outcomes, including participants' likelihood to persist and credits completed. While the study is of just one program, the results are promising. Nevertheless, the context sensitive nature of transit programs bears consideration. While the Los Angeles metro area is not known for robust public transit options, Memphis has an even smaller, more limited transportation agency. If Memphis students were to receive subsidized or free transportation, it is unclear the extent to which they would find it as useful as the Rio Hondo Students. Finally, some postsecondary institutions in Memphis already offer certain students transit passes. The extent to which those programs are consistent across institutions, the costs of those programs, and the demand for expansion are unclear.

Leading Alternative – SNAP Expansion: Each intervention described above could plausibly impact success metrics. However, given the limited utility of the local public transportation system, a U-Pass Program seems less likely to move the needle for

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[65] Burnside, Ashley, and Parker Gilkesson. 2021. "Connecting Community College Students to SNAP." Center for Law and Social Policy. Page 7.

[66] Broton, Katharine M., Sara Goldrick-Rab, and Milad Mohebali. 2020. "Fueling Success: An Experimental Evaluation of a Community College Meal Voucher Program."

[67] Maroto, Maya E., Anastasia Snelling, and Henry Linck. 2015. "Food Insecurity Among Community College Students: Prevalence and Association With Grade Point Average." *Community College Journal of Research and Practice* 39 (6): 515–26. https://doi.org/10.1080/10668926.2013.850758.

[68] Transportation Research Board and National Academies of Sciences, Engineering, and Medicine. 2018. *College Student Transit Pass Programs*. Edited by Jie Yu and Edward Beimborn. Washington, DC: The National Academies Press. https://doi.org/10.17226/25052.

[69] Han, Dahai, Jie Yu, Edward Beimborn, Zihao Jin, and Weijie Tan. 2019. "Elements of Successful Universal Student Transit Pass Programs from Planning to Implementation: A Benchmark Study." *Transportation Research Record* 2673 (4): 833–43. https://doi.org/10.1177/0361198119834916.

[70] Clay, Janelle R., and Jessa L. Valentine. 2021. "Impact of Transportation Supports on Students' Academic Outcomes: A Quasi-Experimental Study of the U-Pass at Rio Hondo College." Hope Center for College, Community, and Justice.

Memphis college students. Housing Voucher Programs might have the potential to make the most profound impacts on individual student success. But, as will be discussed, their costs complicate scalability. In addition, the uncertain impacts of Tacoma's CHAP mean more time might be needed to understand the most effective implementation plan for similar programs. Finally, SNAP expansion merits serious consideration–evidence suggests food access makes a difference and SNAP can reach a scale that the other policies cannot. Therefore, from a technical perspective, a SNAP expansion might most likely support the retention and attainment of the most students of low income in Memphis and Tennessee.

Overcoming Fiscal/Economic, Political, and Administrative Obstacles

Housing Voucher Program: Housing policy almost always must grapple with issues of scale. Housing is the number one expense of individuals and families across the country; interventions to support affordability often require significant public investment. The Tacoma Housing Authority budgets $1 million annually to support roughly 150 students. In Memphis, a city with over 30,000 college students, and a city with an affordable housing shortage of over 38,000 units, this would be a drop in an ocean of need. While this program should be considered in a suite of policies to support students of low-income, it is not well positioned to impact many hundreds or thousands in the city. Political obstacles, insofar as there are any, would mostly relate to the fiscal impact. The CHAP program's administrative hurdles, which obstructed students' ability to actually utilize the vouchers for which they were approved, raises a separate red flag. The administrative complexity of the program appears to impede its ability to serve students in need.

SNAP Expansion: Expanding student eligibility for SNAP would likely be budget neutral. Tennessee would not likely take on additional administrative costs–of which states are required to cover 50 percent. And food costs for newly eligible students would be borne by the USDA. Politically, SNAP tends to be somewhat less contentious than other federal programs for low-income individuals, such as Medicaid and TANF. And changes to expand eligibility are regulatory, not statutory; in this way, the policy might avoid the most intense level of political debate. Finally, the proposed changes could simplify the process of college students who currently must navigate a series of complex exemption procedures. As mentioned previously, this could minimize the 'guesswork and paperwork' for students to access benefits that will facilitate their progress through postsecondary education.

U-Pass Program: Financing a U-Pass Program could confront some opposition. However, a pilot costing between $300,000 and $350,000 would be relatively inexpensive. Politically, perhaps County Mayor Lee Harris would find an initiative such as this an attractive pilot, in light of his past efforts to fund MATA. This could also be spun as an investment in SCS graduates' postsecondary success. Administratively, this policy seems fairly simple. SCS has previously established a similar MOU with MATA as a model. Institutions would have to agree on a formula to equitably divide a small number of

passes. The institutions would also have to decide whether to use income eligibility criteria to ensure that students most-in-need benefitted.

Leading Alternative – SNAP Expansion: A SNAP expansion has the greatest potential to overcome economic/fiscal, political, and administrative obstacles. The housing voucher program's high costs and possible administrative burdens suggest that implementation might be difficult and/or achieve narrow impacts. A U-Pass program might overcome obstacles fairly easily. However, to understand its potential as policy, more information will need to be gathered from institutions of higher education. And MATA's desire to enter into an MOU with the city's postsecondary institutions would also need to be assessed.

Recommendation: SNAP Expansion

An expansion of SNAP benefits could positively impact students across the state. Eliminating work requirements for postsecondary programs that will increase students' employability–the clear prerogative of state SNAP agencies, based on federal regulations–could drastically reduce food insecurity among Tennessee College students. Reduced food insecurity will promote better grades and more credit completion, which will lead to higher rates of student retention. Dropping the requirement of students to work 20 hours per-week will stop students from being forced to choose between working a shift or attending class. The policy will come at no cost to the state. This policy will accelerate progress toward Tennessee's Drive to 55 goal. Finally, this intervention will simplify administrative processes for students who stand to benefit from a federal resource that can support their health, their success, and their employability.

Conclusion

For Tennessee to meet its Drive 55 target, the needs of students from low-income backgrounds will demand attention. Despite generous financial aid spending, Tennessee provides relatively little based on financial need. While programs such as Tennessee Promise open doors to many, students of low income will disproportionately struggle if they cannot afford basic needs, such as food, housing, and transportation. This policy memo lays out one promising approach to supporting students from low-income backgrounds. The benefits that SNAP can offer to students will make a difference for many. Not only will this policy support persistence, it will also close retention and attainment gaps between students of low-income and their higher-income peers. This will not end the work to completely close such gaps. More equitable financial aid, housing support, transportation support, or other interventions might be necessary. But, ensuring that students enrolled in programs designed to enhance their skills and contribute to the state's economy do not go to bed–or go to class–hungry is a monumental step in the right direction.