



# Georgia Department of Audits and Accounts

## Performance Audit Division

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### Why we did this review

Technical education comprises approximately 80% (\$735 million) of the Technical College of Georgia's \$913 million budget. In academic year 2019, nearly 141,000 students were enrolled at one of the 22 technical colleges.

Our review primarily examined the effectiveness of technical education at promoting the economic well-being of Georgia citizens by recruiting new students, keeping them long enough to obtain an award, and moving graduates to employment. We also examined TCSG's funding to colleges and programs, as well as its effectiveness at retaining faculty.

### About Technical Education

Technical education is postsecondary vocational education that provides for workforce development in the state through certificate, diploma, and associate degree programs. Common technical education programs include commercial truck driving, nursing, cybersecurity, and welding.

Technical education is provided by 22 colleges located across the state. Each college has a local board of directors, though system-wide policies are determined by the board of the Technical College System of Georgia.

## Technical Education

### TCSG's graduates likely to obtain employment, though additional retention efforts needed

#### What we found

The Technical College System of Georgia (TCSG) achieves its mission of workforce development by offering occupational programs that generally lead to employment among those who obtain an award. However, further improvements are needed to recruit and retain students.

We estimate that TCSG graduates identified as fully employed<sup>1</sup> following their last award earn approximately \$30,800—9% more than the median household income in Georgia. Additionally, approximately 46% of awardees in a given term were not identified as similarly working prior to their award. Most who worked previously earned at least 5% more after their award.

While those who obtain awards are likely to find employment, this population represented less than half (44%) of students who began at a technical college between academic years 2015 and 2017. Award rates varied by technical college, as well as by program.

Approximately 60% of beginning students who left their technical college were identified as employed for the full year after their last semester; median wages for those identified as fully employed were 20% less than those who obtained an award. Approximately 12% of those who left without an award transferred to a four-year postsecondary institution. Other reasons cited by technical college staff include lack of academic preparedness and personal challenges such as financial struggles.

<sup>1</sup> Identified in Georgia Department of Labor wage data as working three or four quarters and making above the federal minimum wage after their award.

Like beginning students who left without obtaining an award, a significant portion (78%) of dual enrollment students transferred to a four-year institution following their time at TCSG. This population has grown significantly at technical colleges since academic year 2015—now comprising 22% of system enrollment but more than 25% of the student population at seven colleges. Since academic year 2015, dual enrollment has nearly tripled, which has led to a 5% increase in the student population despite the 11% decrease among traditional students (i.e., those who enroll after graduating high school). While this helps them maintain state funding (which is based on the number of credit hours), colleges receive less local funding (i.e., student fees) for dual enrollment students compared to traditional students.

TCSG is aware that students may enroll only to take courses prior to attending a four-year institution, and central office and technical colleges have worked to establish agreements to ensure credits transfer. TCSG and the University System of Georgia have a statewide agreement in which 28 general education courses (e.g., English, Biology) will transfer from any technical college to any USG institution. While these agreements ensure the transferring students we reviewed obtained credit for 80% of general education courses taken, there are fewer opportunities for occupational courses to transfer. Most occupational-related agreements are for degree programs and are made between institutions, which have limitations.

TCSG analyzes data to monitor college and program performance, which assists with funding decisions and strategic planning. For example, central office calculates placement and retention rates, which the technical colleges use (along with input from local industry) to determine whether to expand or terminate programs. In examining TCSG's programs, we found that those with the highest expenditures are generally successful in moving students to awards and then employment, though some warrant additional review. Likewise, the largest proportion of operating expenditures are concentrated among technical education locations with the largest number of course offerings.

While TCSG demonstrates a commitment to using data, improvements would add transparency and clarity to its assessment and reporting of performance. For example, in addition to award attainment and continued enrollment at the same technical college, TCSG's current retention rate calculation includes transfers to four-year institutions, which increases some colleges' rates between 6 and 13 percentage points. Similarly, TCSG's calculation of awardees' placement rate of 98% combines employment (78%) and continuing education only (21%) into a single result, which masks variances among colleges when examining their effectiveness at moving awardees to employment versus continuing education.

## **What we recommend**

We recommend that TCSG continue its efforts to recruit and retain traditional students and ensure they are obtaining gainful employment following their awards. This includes improving the system and college websites' content, monitoring the impact of retention efforts, and utilizing graduate wage data. Given the number of students who transfer to a four-year institution, TCSG and technical colleges should also evaluate their articulation agreements to ensure maximum credit transfer.

We also recommend that TCSG determine how student transfers to four-year institutions should be incorporated into its strategic plan. Additionally, TCSG should assess its methodologies for calculating outcomes such as retention and placement rates to ensure it is transparently capturing and reporting the outcomes (awards, employment, and transfer) of all students who begin at a technical college. Finally, TCSG should continue to use data to assess its programmatic and operational expenditures.

A detailed listing of our recommendations can be found in [Appendix A](#).

***Agency Response:** TCSG generally agreed with our recommendations. Specific responses are included at the end of each relevant finding.*

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## Purpose of the Audit

This report examines whether the Technical College System of Georgia (TCSG) is effective at promoting the economic well-being of Georgia citizens through its technical education program.<sup>2</sup> Specifically, the audit set out to determine the following:

1. Whether TCSG students obtain employment following graduation;
2. Whether students remain at TCSG long enough to obtain certifications, diplomas, or degrees;
3. Whether TCSG is effective at attracting students;
4. Whether the TCSG funding mechanism provides options for growth, to the extent that TCSG is successfully placing graduates; and
5. Whether TCSG is effective at retaining faculty.

A description of the objectives, scope, and methodology used in this review is included in [Appendix B](#). A draft of the report was provided to TCSG for its review, and pertinent responses were incorporated into the report.

## Background

### Technical College System of Georgia

Prior to 1986, postsecondary vocational and technical education was managed by local institutions. In 1988, the Department of Technical and Adult Education (DTAE) was formed under the executive branch to oversee the transition to state governance. The conversion was completed in 2002, and in 2008 DTAE was renamed the Technical College System of Georgia (TCSG) to represent the unified system of technical colleges throughout the state.

State law (O.C.G.A. §§ 20-4-11 and 20-4-14) grants TCSG authority to exercise state-level leadership, management, and operational control over technical education and adult literacy programs, services, and activities to “promote the economic well-being of Georgia citizens.” Statute establishes the TCSG State Board as the agency’s legal policymaking body responsible for setting system-wide standards, regulations, and policies. The board is made up of one member from each of Georgia’s 14 congressional districts and 9 at-large members appointed by the governor.

The board appoints a commissioner to manage the overall supervision and direction of TCSG by implementing board-driven policies and overseeing the daily operations of technical education, adult education, and economic development programs. Within TCSG’s technical education branch, the commissioner and approximately 30 central office staff assist the state board in carrying out its mission (see [Exhibit 1](#)). Duties include distributing state and federal funding to the colleges, sharing best practices, and managing data collection and reporting. Central office staff also assist the colleges

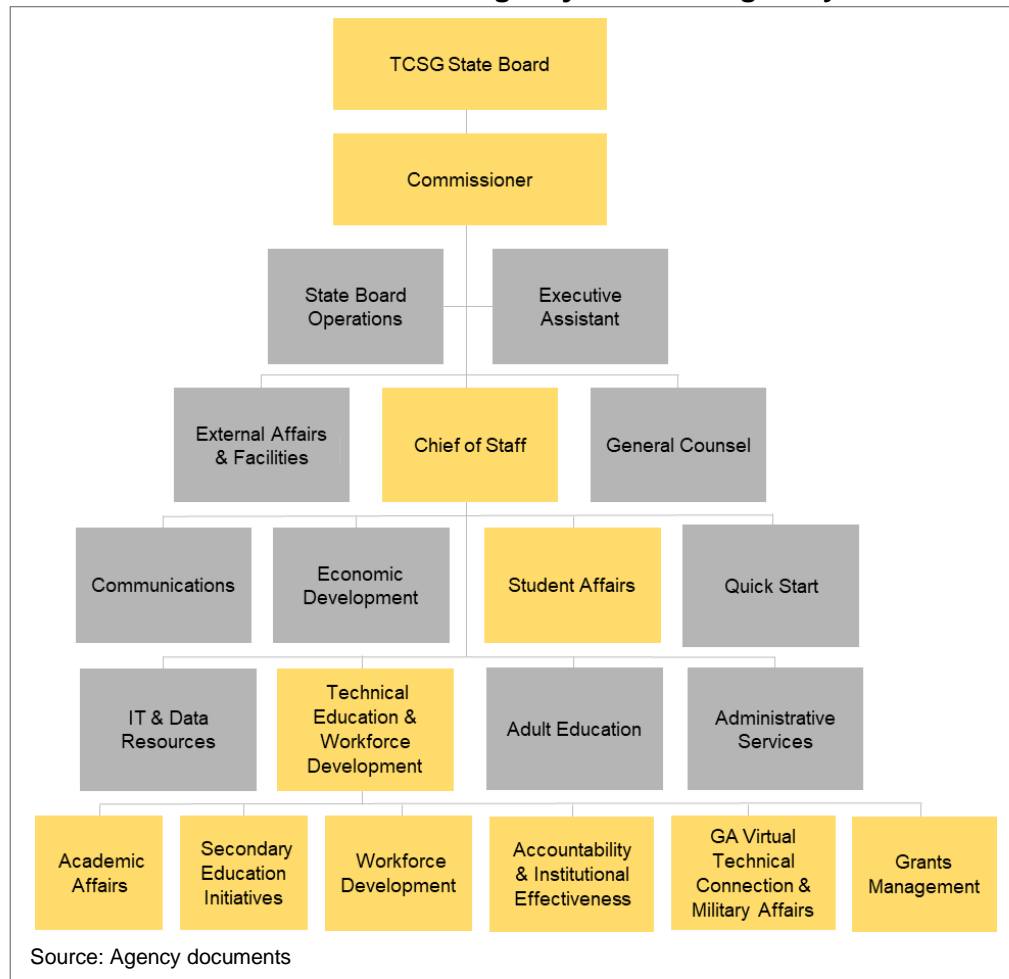
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<sup>2</sup> As such, we did not review the adult education program. Additionally, we did not include the dual enrollment population in our analyses of beginning student or graduate outcomes.

with technical support, curricula and standards development, and the addition or termination of programs.

### Exhibit 1

#### TCSG State Board Serves as the Agency's Governing Body



### Technical Education

According to Georgia appropriations bills, the purpose of TCSG's technical education program is to "provide for workforce development through certificate, diploma, and degree programs in technical education and continuing education programs for adult learners, and to encourage both youth and adult learners to acquire postsecondary education or training to increase their competitiveness in the workplace."

TCSG offers approximately 85 programs that fall into 9 industry types, as shown in Exhibit 2. Within these programs (e.g., Accounting) are approximately 1,100 majors that are connected to one of three awards, described below.

- **Technical Certificate of Credit (TCC)** – A TCC represents attainment in a particular occupational skill and requires between 9 and 36 credit hours. With 714 majors, this is the most common award offered at TCSG. A TCC can be earned as a standalone award or as part of a student's coursework toward

attaining a diploma or degree. For example, students in the Accounting program can earn a TCC in Office Accounting, which fulfills four course requirements for a diploma or degree.

- **Diploma** – This award requires between 37 and 59 credit hours and includes a sequence of occupational courses, as well as core courses in English, math, and social/behavioral science (which can also fulfill some degree requirements). TCSG offers 152 diploma majors.
- **Degree** – An associate degree requires between 60 and 73 credit hours that include occupational courses and general education courses such as English, math, and humanities. TCSG offers 211 associate degrees in science, applied science, or nursing.

## Exhibit 2

### TCSG Programs Fall under Nine Industry Types

Industry Type	Program Examples
<b>Business</b>	Accounting, Business & Office Technology, Marketing Management
<b>Cyber and Related</b>	Cybersecurity, Database, Networking, Web Design/Development
<b>Engineering &amp; Technology</b>	Bioscience, Electrical/Computer Engineering, Mechanical Engineering
<b>Film</b>	Media Production
<b>Healthcare &amp; Nursing</b>	Health Care Assistant, Medical Assisting, Paramedic Technology, Nursing
<b>Industrial Technology</b>	Drafting/GIS, Industrial Systems Technology, Welding & Joining Technology
<b>Personal &amp; Public Services Technology</b>	Early Childhood Care & Education, Cosmetology, Culinary Arts
<b>Public Safety</b>	Criminal Justice, Fire Science Technology, Law Enforcement, TSA
<b>Transportation &amp; Logistics</b>	Automotive Technology, Commercial Truck Driving, Diesel Equipment Technology
Source: Agency documents	

Among the offerings at TCSG, there are 17 program groups that TCSG and the governor's office "identified as strategically important to the state's economic growth" because there are more jobs available than there are skilled workers within those select industries. These program groups represent over 400 TCC and diploma majors. To incentivize students to pursue these programs and provide a workforce pipeline for companies within these industries, the state established the HOPE Career Grant. [Appendix C](#) provides additional information on these high demand programs.

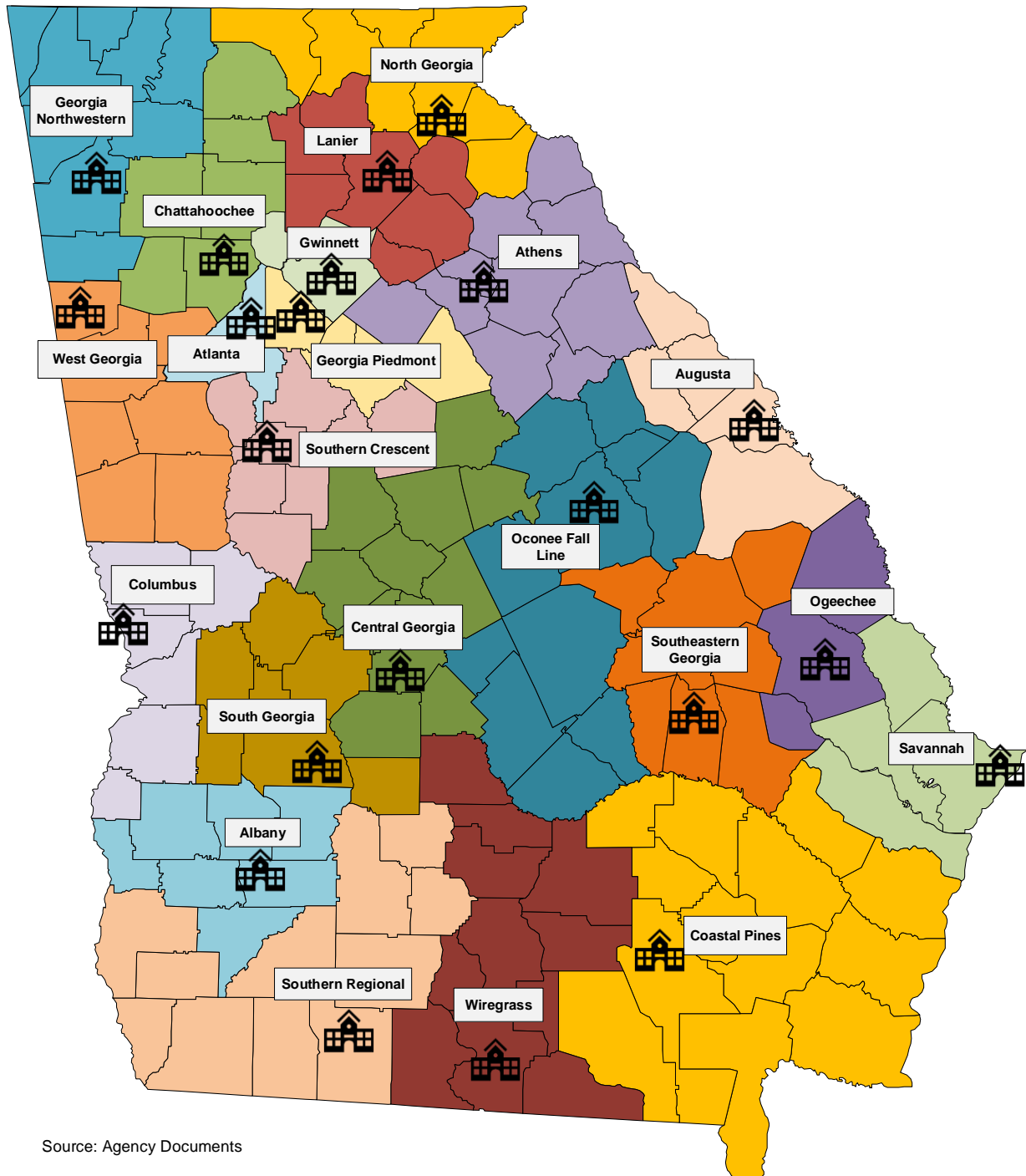
### Technical Colleges

Technical education is provided by 22 colleges located across the state (see Exhibit 3). Each college operates in a designated service delivery area (SDA) ranging from 1 to 13 counties and is accountable for meeting business and industry needs in that area.

All colleges except Columbus Tech operate at least one satellite campus or instructional center in addition to a main campus. Main and satellite campuses offer both administrative (e.g., student affairs) and instructional services. Instructional centers provide primarily classroom space and are mainly used to increase student

accessibility, particularly for those with large SDAs. In all, the 22 technical colleges operate 106 campus locations for technical education.

### Exhibit 3 Technical Education Provided at 22 Colleges (AY 2020)



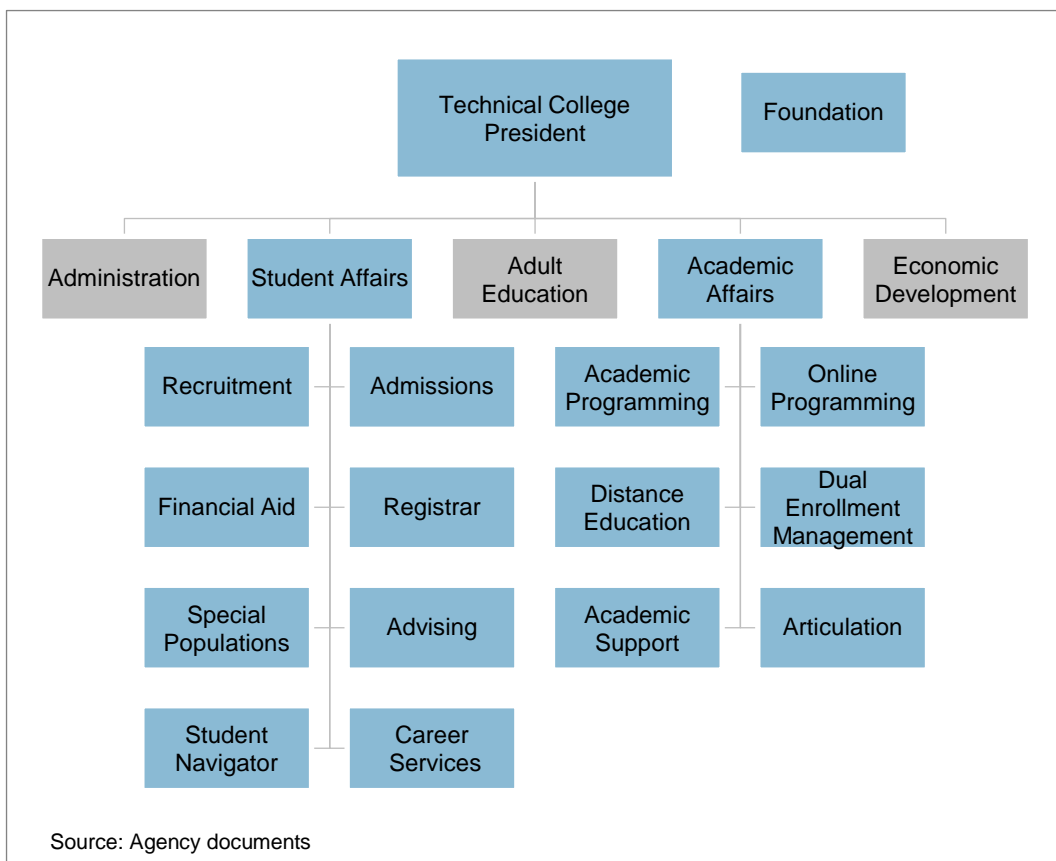


Each college has a local board of directors appointed by the state board to help facilitate delivery of local programs and advise on community needs. These boards generally serve as advisors to the college president regarding the implementation of college goals. Additionally, each program within the college must have an advisory board made up of local industry representatives who help the college improve program content and operation.

College presidents are appointed by the commissioner and approved by the state board. They are responsible for overseeing daily local operations, as well as the college's strategic planning and institutional effectiveness efforts. Though the state board sets system-wide curriculum standards, college presidents have the discretion to implement them in a manner that best suits local needs. For example, colleges must use TCSG-approved assessment instruments and score standards in the admissions process, though they can justify higher score requirements for certain programs. Other mandates such as tuition are determined at the system level; however, colleges have the discretion to set their own fee schedules contingent upon commissioner approval.

While colleges may be structured differently, local college staff generally include administrative, academic affairs, and student affairs functions, as shown in **Exhibit 4**. Academic affairs offices manage faculty, assess academic programs, build course schedules, and facilitate distance education. Student affairs offices are responsible for admissions, financial aid, student support, and career services.

**Exhibit 4**  
**Technical College Presidents Manage Daily College Operations**



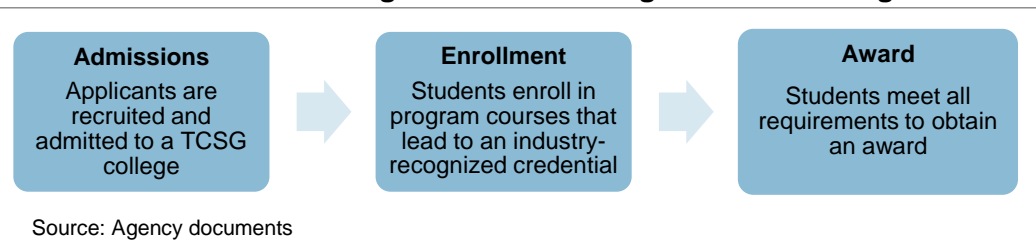
Each college also has a 501(c)3 non-profit foundation led by a board of trustees (separately from the college). The foundation serves to solicit, manage, and administer charitable donations to the college and its students. Foundations primarily aim to provide financial support to students in the form of scholarships. They may also provide funds and equipment necessary to support programs and college activities. The board of trustees manages all affairs and property of the foundation.

### Student Progression at Technical Colleges

As shown in **Exhibit 5**, students proceed through technical colleges at different stages beginning with admissions and enrollment and ending with award attainment. College staff assigned to student affairs' offices generally provide support and guidance to students through each phase.

#### Exhibit 5

##### Students Transition Through Technical College at Various Stages



### Admissions & Enrollment

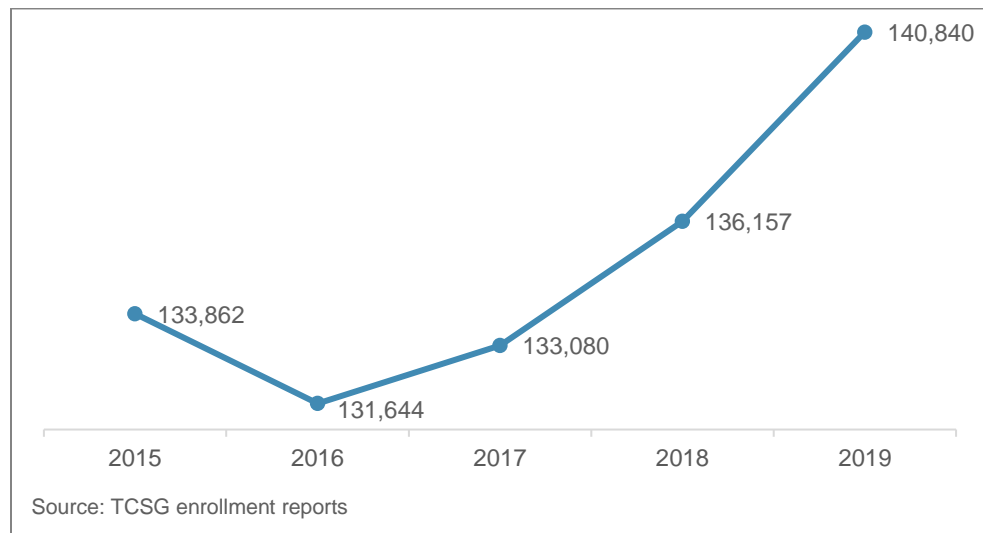
Admissions is a multi-step process that evaluates an applicant's prior academic experience and overall academic readiness and prepares them for entering the technical college. The process consists of recruitment, placement assessments, financial aid advisement, and program admission. While all technical colleges are open admission (meaning all students who apply are generally accepted), individual programs (and awards) may have additional requirements for admission. For example, admission into many health science programs (e.g. Nursing, Dental Hygiene, Radiologic Technology) follows a competitive selection process. Students may be required to take standardized entrance tests, complete prerequisite courses, and apply for admission into those specific programs.

Once students are admitted into a major, they enroll in courses that meet related curriculum requirements. These include occupational courses that are designed to help the student gain knowledge and practical experience in the area related to their program of study. Students may also take courses in general subjects such as English and math depending on curricula requirements. Courses may be offered in person, online, or in hybrid form with both classroom and online components.

In academic year 2019, approximately 141,000 students enrolled at TCSG's technical colleges, a 5% increase since academic year 2015 (see **Exhibit 6**). Approximately 41% of students enrolled in an associate degree program, 25% pursued a diploma program, and 21% entered a certificate program (the remaining 13% were not enrolled in an award program). Enrollment by college can be found in [Appendix D](#).






*TCSG's academic year includes a fall, spring, and summer term. For example, academic year 2019 began in the fall of calendar year 2018 and ended in the summer of calendar year 2019. Students may enroll during any term.*

**Exhibit 6**  
**TCSG Enrollment has Increased Between AY 2016 and AY 2019**



The majority (78% or 109,200) of those admitted to technical colleges are “traditional students,” which means they enroll after receiving a high school diploma or GED. Unlike a traditional student at a four-year postsecondary institution, who likely enrolls immediately after high school, the typical traditional student at TCSG is 27 years old (see Exhibit 7), which means they may have previously worked or obtained other postsecondary education. As shown in Exhibit 7, the typical traditional student in academic year 2019 enrolled in an associate degree program, was female, and attended the technical college within their service delivery area. Approximately 48% were considered economically disadvantaged (i.e., eligible for federal needs-based financial aid). Approximately 64% enrolled with a high school diploma or equivalent; the remaining typically had one to three years of postsecondary education.

**Exhibit 7**  
**TCSG’s Typical Traditional Student is 27 Years Old (AY 2019)**

Average Age	62% Female	48% Economically Disadvantaged
27		
41% in Associate Degree Programs	79% Attend Local Technical College	64% Enter with a High School Diploma or GED
		

Source: TCSG student data

High school students may also attend a technical college under Georgia's dual enrollment program, in which the state funds classes that can be counted toward both college and high school credit.<sup>3</sup> In academic year 2019, these "non-traditional" dual enrollment students comprised 22% of all technical education students (approximately 31,600).

### Award Attainment

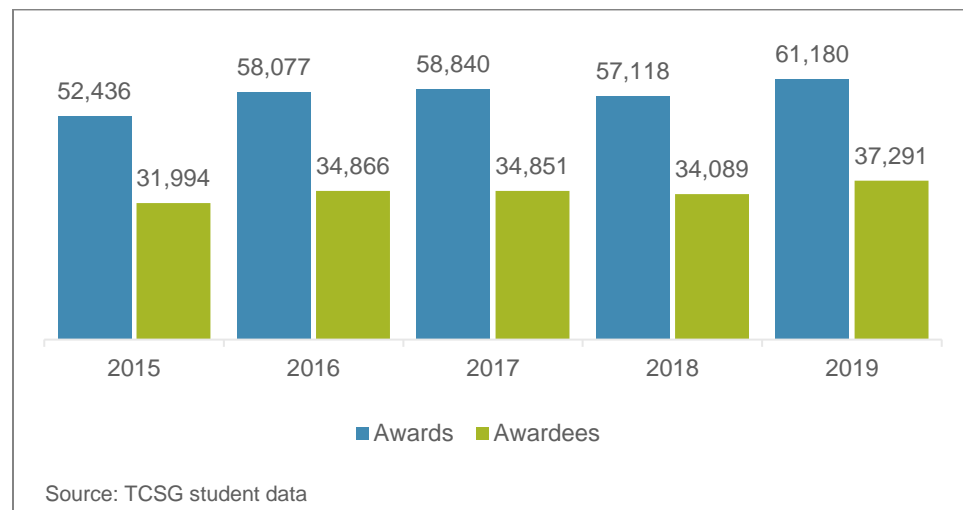
After completing the required program coursework, the student receives an award in the form of an associate degree, diploma, or certificate. The student then may choose to seek employment or continue education at the technical college or a four-year institution. College career services assists students in their career search through services like career assessments, resume workshops and virtual job shadowing.

In academic year 2019, approximately 37,300 students earned 61,200 awards (students can earn more than one award in an academic year). Approximately 74% of awards earned were TCCs, 13% were diplomas, and 12% were degrees. As shown in Exhibit 8, the number of awardees and awards increased by approximately 17% between academic years 2015 and 2019, which is likely due to TCSG's recent approach of offering more stackable awards within diploma and degree programs. Additional information about awards by college can be found in [Appendix D](#).

*TCSG students may obtain multiple awards while enrolled. For the purposes of this report, we refer to those who obtain an award in a given term as "awardees." Students are labeled "graduates" based on their final award from TCSG.*

### Exhibit 8

#### The Number of Awardees and Awards has Increased since AY 2015

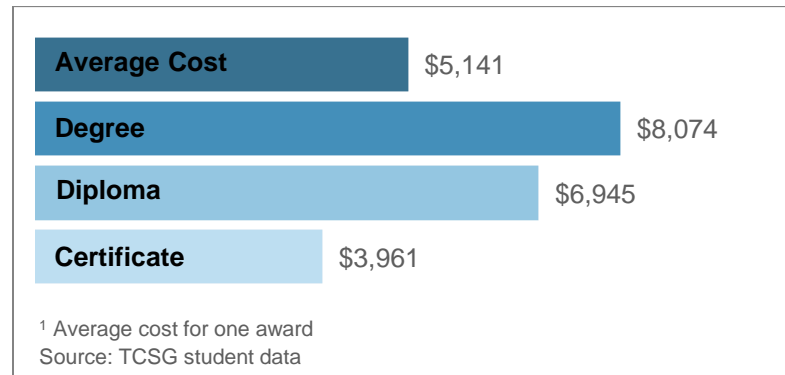


<sup>3</sup> Effective July 1, 2020, the dual enrollment population covered under state funds will be limited to 11th and 12th graders, as well as 10th graders who meet certain qualifications, including enrollment in an occupational course at a technical college. Additionally, state funded semester credit hours will be limited to 30 per dual enrollment recipient, or the quarter hour equivalent.

### Student Costs

Between academic years 2015 and 2019, the average cost of an award from TCSG was approximately \$5,100<sup>4</sup>, as shown in Exhibit 9. TCSG students who received a certificate, which may be earned in one or two semesters, paid an average of nearly \$4,000. Students whose only award was a diploma or degree paid on average approximately \$6,900 and \$8,100, respectively.

#### Exhibit 9 An Award at TCSG Costs an Average of \$5,141<sup>1</sup> (AY 2015-AY 2019)



Student costs are primarily related to tuition and fees, described below. When these costs are combined, the typical full-time student taking 12 credit hours would be charged approximately \$1,500 each semester.

- **Tuition** – Tuition is the cost per credit hour in which a student is enrolled, which is set by the state board. TCSG charges students \$100 per credit hour for tuition, an increase from \$89 that went into effect in the fall of academic year 2020.
- **Fees** – Mandatory fees are set by the state board and primarily include six fees—an instructional support fee, technology fee, registration fee, campus safety fee, student activity fee and student accident insurance fee. Three fees are fixed across all colleges: instructional support fee (\$55), technology fee (\$105), and accident insurance fee (\$6). Other common fees vary among colleges<sup>5</sup> but average \$27 for campus safety, \$36 for the activity fee, and \$59 for registration. In total, mandatory fees cost a student approximately \$290 per semester. Colleges and programs may charge additional fees as needed.

Tuition and fees are paid directly by the student, either out of pocket or through state or federal scholarships and grants. Approximately 38% of students in academic year 2019 qualified for state financial aid through the HOPE scholarship (for associate

<sup>4</sup> This average represents the cost for students who began in the fall of academic year 2015 and earned only one award between academic years 2015 and 2019. The population reviewed paid an average of \$6,638 for all awards obtained (approximately 55% obtained at least two awards by academic year 2019). The average cost for diploma and degree earners who obtained multiple awards was \$7,745 and \$8,641, respectively. It should be noted that costs by program can also vary.

<sup>5</sup> Campus safety fees range from \$20 to \$43, activity fees range from \$14 to \$56, and registration fees range from \$50 to \$72.

degrees) or grant program (for certificates and diplomas), which pays \$76 per credit hour for tuition. Students in programs identified by the state as “strategically important” can use the HOPE Career Grant to cover the remaining tuition balance. Finally, students may qualify for federal aid (based on financial need) or receive college-level scholarships.

Dual enrollment students do not have to pay to attend a technical college. As part of the dual enrollment program, the state covers tuition, mandatory fees, and books. Mandatory fees amount to \$50 per semester and book fees are capped at \$25 per credit hour for up to 15 credit hours.

### Financial Information

In fiscal year 2020, technical education’s \$734.8 million appropriation comprised approximately 81% of TCSG’s total \$912.7 million in funding. As shown in **Exhibit 10**, funding for technical education has increased by 3% since fiscal year 2016.

#### Exhibit 10

#### Technical Education is Primarily Funded with State and Other Funds

Fund Source	FY16	FY17	FY18	FY19	FY20
<b>State</b>	\$303,748,916	\$311,702,546	\$334,268,209	\$360,893,247	\$333,695,682
<b>Federal</b>	\$62,196,348	\$54,627,352	\$55,616,419	\$48,534,885	\$48,534,885
<b>Other</b>	\$344,271,187	\$334,455,334	\$332,855,235	\$352,615,673	\$352,615,673
<b>Total</b>	<b>\$710,216,451</b>	<b>\$700,785,232</b>	<b>\$722,739,863</b>	<b>\$762,043,805</b>	<b>\$734,846,240</b>
Source: State appropriations acts					

Technical education funds are generally split between state appropriations and agency funds, while the remaining funds are provided through federal funds and intrastate transfers. Each source is described below.

- **State Funds** – TCSG receives an annual state appropriation that is tied to prior enrollment for personal services and square footage for operating costs. Overall, state funding has increased by approximately 10% since fiscal year 2016, comprising approximately 45% of technical education’s total funding.

After allocating a portion to central office duties, TCSG distributes state funds to the colleges based on funding from the previous year and growth in enrollment and credit hours, with adjustments made to ensure parity for small rural colleges. In fiscal year 2020, state funds to colleges for technical education totaled approximately \$310 million, ranging between \$8.7 million and \$24.7 million per school (see [Appendix D](#) for funding by college).

- **Federal Funds** – TCSG receives federal Perkins grants to disseminate to the colleges for support services to special student populations, which include disabled, economically disadvantaged, non-traditional (e.g., female welders), pregnant, or English as a Second Language students, as well as displaced homemakers. Individual colleges can also directly apply for additional federal funding. Federal funding has decreased by approximately 22% since fiscal year 2016.

- **Other Funds** – TCSG receives other funds in the form of agency funds, intrastate transfers and other not specifically designated funds. Nearly all are agency funds generated primarily through tuition and fees collected directly by the technical colleges (this includes state payments related to dual enrollment and the HOPE grants). Intrastate transfers are payments TCSG receives from other state entities (e.g., governor's office, Department of Corrections, Division of Family and Children Services) for use of space and/or resources for training.

### Other States

Two-year postsecondary education is offered under a variety of structures in other states. Some states operate a centralized system for their two-year colleges like TCSG, while other states take a decentralized approach, allowing decisions to be made at the local level. Additionally, some states may primarily operate community colleges, which are primarily intended for taking classes that will transfer to four-year postsecondary institutions. We identified four states with similar structures to Georgia—providing technical education under a centralized, system approach.

- **Kentucky** – The Kentucky Community & Technical College System (KCTCS) has 16 colleges within its system and is governed by the Board of Regents under the leadership of the Kentucky Council of Postsecondary Education. KCTCS is a combined system of both technical and community colleges. It makes no distinctions between the two types of colleges. Both offer technical and transfer programs that lead to short- and long-term credentials (i.e. TCCs, diplomas and degrees).
- **South Carolina** – The South Carolina Technical College System (SCTCS) represents 16 technical community colleges. SCTCS does not make a distinction between technical colleges and community colleges in its system. Like TCSG, SCTCS has its own board that develops and publishes policies, rules and regulations for the system. Each of its colleges offer TCCs, diplomas and associate degrees.
- **Tennessee** – The Tennessee Board of Regents is the governing body for Tennessee's 13 community colleges and 27 colleges of applied technology. There are key distinctions between community and technical colleges within its system. Technical colleges only provide certificate and diploma programs while community colleges offer associate degrees.
- **Wisconsin** – The Wisconsin Technical College System (WTCS) has 16 colleges within its system. Like TCSG, WTCS is a system composed of only technical colleges. Additionally, WTCS has its own board, which is the governing body for the system and district boards that work with college presidents to meet industry and community needs.



## Findings and Recommendations

### Student Outcomes

**Finding 1:** TCSG graduates who obtain full employment after their last award earn wages slightly higher than the statewide median.

While it reviews and reports technical college graduates' placement information, TCSG currently does not analyze wage data, which would assist in assessing the extent to which programs and awards provide graduates gainful employment. We estimate that TCSG students who work a full year following their last award generally earn approximately \$30,800—9% more than the median statewide income for Georgia households.

To determine employment rates for colleges and programs, TCSG obtains data from the Georgia Department of Labor (DOL), which collects quarterly employment information (including industry type, wages) from Georgia businesses that file for unemployment insurance. Because this information excludes individuals who are self-employed, are in the military, work for a small business, or work outside the state, technical colleges must manually supplement the information through graduate surveys and phone calls.

TCSG does not systematically analyze wage data from DOL or other sources, which, in addition to in-field or related field employment rates, would help assess whether the obtained credential provides the awardee gainful employment, as well as provide information to prospective students on the potential wages they may earn with particular majors. According to central office staff, wages have not been analyzed or reported due to the low percentage of individuals in the DOL data and the lack of information related to number of hours worked.

Three of the four states we spoke with collect and report wage information through DOL data and/or standardized graduate surveys, which are increasingly important when some programs are more likely to produce employment that would not be reflected in DOL data. Additionally, wage information is available from the Bureau of Labor Statistics, which provides state-level information for broad industry categories (but would not provide information to compare colleges or majors).

We performed two analyses that can serve as examples for how wage data can be used to evaluate system, college, and program outcomes. In the absence of comprehensive wage data to review, the audit team was limited to DOL data<sup>6</sup> to assess TCSG awardees' earnings. Due to the availability of DOL data, we were limited to those who obtained an award between the fall of academic year 2015 and the fall of academic year 2017.<sup>7</sup> These analyses are described below.

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<sup>6</sup> We obtained the labor data from the Governor's Office of Student Achievement (GOSA) because it houses the employment, wage, and postsecondary information we also needed. TCSG must obtain wage information directly from DOL due to restrictions on how GOSA's data can be used.

<sup>7</sup> At the time of this review, calendar year 2017 data was the most recent available through GOSA, which would allow for a full year review of employment for those who graduated no later than the fall of academic year 2017 (which equates to the fall of calendar year 2016).



### Graduate Median Wages

Technical college graduates identified as employed for a full year typically earned approximately \$30,800<sup>8</sup>—approximately 9% more the median statewide income for Georgia households (\$28,300). Wages of certificate earners (which comprised nearly 40% of graduates) were approximately 9% higher than the statewide median (\$30,700), while those with a degree (31% of graduates) earned approximately 21% more (\$34,200).

To determine graduate median wages, we reviewed the wages for 55,400 TCSG students who obtained their last award from a technical college between the fall of academic year 2015 and the fall of academic year 2017. We identified approximately 76% of graduates (41,100) in the DOL data for at least one quarter following their last award from a technical college, which should be considered the minimum rate of graduates employed because of DOL's data limitations.

Using a federal study<sup>9</sup> as the basis for our criteria, we limited the population reviewed to those included in DOL data for the three or four quarters following their last award and making above the minimum wage. This equated to approximately 75% (26,400) of the employed population and about half of all graduates.<sup>10</sup> From this population, we removed 6,500 graduates who also continued their postsecondary education. This decreased our population to 19,900—approximately 36% of total graduates and nearly half of those who were employed for at least one quarter.<sup>11</sup>

**Median Wage of Fully  
Employed TCSG  
Graduates:**

**\$30,800**

*9% higher than median  
statewide household  
income*

As shown in **Exhibit II**, college median incomes ranged from \$27,600 for Ogeechee graduates to \$36,000 for Gwinnett graduates. Compared to the median household income in their service delivery area, colleges' graduate median earnings ranged from 10% less to 22% more, with graduates from 16 technical colleges earning a higher median wage. Colleges with lower comparative earnings were in areas with higher median incomes (e.g., Metro Atlanta, Savannah), though there were some exceptions. For example, the median income of Gwinnett Tech's service delivery area (Gwinnett County and North Fulton County) is the third highest in the state (\$33,100); however, the median income of the college's fully employed graduates is approximately 9% higher (\$36,000).

In addition to location, the distribution of graduates in particular majors impacts a college's overall median wage (e.g., more fully employed graduates with Nursing degrees at one college vs. more Early Childhood Education degrees in another). However, more work should be done to determine median wages for particular majors because some were not sufficiently represented in the DOL data. This may be because they are more likely to be self-employed (e.g., Cosmetology) or work in a small business (e.g., Early Childhood Education).<sup>12</sup>

<sup>8</sup> Adjusted to 2018 dollars

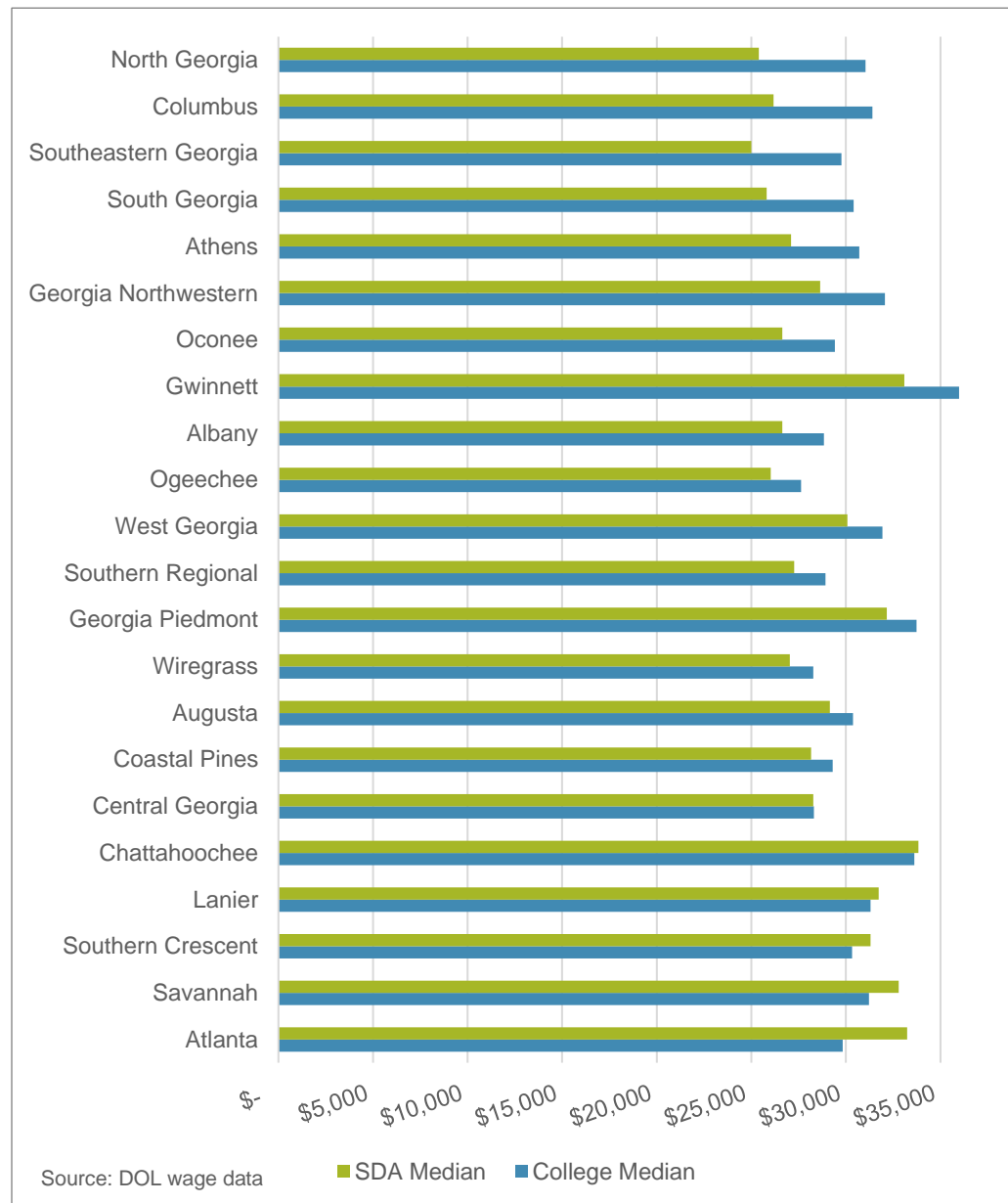
<sup>9</sup> United States Census Bureau's Longitudinal Employer-Household Dynamics program, Post-Secondary Employment Outcomes tabulations

<sup>10</sup> This population—which includes those who were also continuing their education—earned a median wage of \$29,800, approximately 5% more than the statewide median for Georgia households.

<sup>11</sup> Nearly all (92%) of those in the population reviewed worked were in DOL data for four quarters.

<sup>12</sup> With DOL and survey information, TCSG reports that 80% of Early Childhood Education awardees were employed, while only 20% showed up in DOL data under the criteria we were using. Similarly, TCSG identified 75% of Cosmetology awardees were employed, while we identified 18%.

**Exhibit 11**  
**Graduates from 16 Colleges Earned Higher Median Wages than their**  
**Service Delivery Area (Fall AY15-Fall AY17)**



We reviewed the wages for a sample of top programs and majors that qualify for the HOPE Career Grant, described below (specific data can be found in [Appendix E](#)):

- **Top Majors** – We reviewed the median wages for 12 majors, which comprised approximately 35% of all fully employed graduates (6,900 of 19,900).<sup>13</sup>

<sup>13</sup> These majors were among the 27 most common during the time period review, representing half of all graduates. Employment represented in DOL data varied, with percentages ranging from less than 10% to nearly 70%. We selected the 12 majors in which at least 40% of graduates were employed for three or four quarters, earned above the minimum wage, and were not also continuing education.

Graduate median wages for these majors ranged from 17% less than the statewide median (Medical Assisting diploma, making \$23,400) to 73% more (Nursing degree, making \$49,000).

Some programs were consistent in their comparability to wages in the colleges' service delivery areas, while others varied. For example, graduates with a Practical Nursing diploma—with a median salary of \$30,800—generally earned more than the median household income in their service delivery area. By contrast, median wages for those with an Accounting degree varied—even in service delivery areas with similar median incomes; Southern Crescent graduates earned a median of \$37,900 (21% more than its area median of \$31,300), while Lanier graduates earned \$29,000 (9% less than its area median of \$31,700).

- **HOPE Career Grant Eligible Programs** – Approximately 8,600 of the 19,900 fully employed graduates (43%) obtained TCCs and diplomas in the 17 programs that the state has identified as strategically important thus qualify for the HOPE Career Grant. These graduates earned approximately \$30,600—8% higher than the statewide median and similar to those earned by graduates from ineligible programs. As with the most popular programs, the percentage of graduates identified in DOL data varied; among the six programs we reviewed, median wages ranged from \$29,200 (Aviation) to \$40,500 (Precision Manufacturing).

### Wages Prior to and After Award

Technical education awards generally increased identified earnings by approximately 22% among those fully employed in the year prior to and following the term in which they obtained their award. Additionally, approximately 46% of awardees appear to have obtained new, full employment following their award.

To analyze awards' impact on employment and wages, we reviewed DOL data for TCSG students who obtained an award between the fall of academic year 2015 and the fall of academic year 2017. We limited our analysis to those who were employed for at least three or four quarters with earnings above the minimum wage after their award (i.e., "fully employed"). This averaged to nearly 35% of those who obtained an award in each term.

During each term, approximately 46% of those we identified as fully employed following their award were not identified as similarly working in the prior year (i.e., either not working for three or four quarters or not earning at least the minimum wage). As such, this may be considered new full employment resulting from the award. For example, among the nearly 6,700 who were fully employed following their award in the fall of academic year 2017, 800 (12%) were identified in the DOL data as working fewer than three quarters prior to their award, and an additional 760 (11%) were not identified as working at all. Approximately 1,200 (18%) worked three or four quarters but did not earn above the minimum wage, which likely indicates part-time employment.

Among those who were fully employed prior to their award, wages in the following year increased by approximately 22%—from an average median of \$27,700 to \$33,800. Wages increased by at least 5% for approximately 67% of the reviewed population in each term. For example, as shown in Exhibit 12, among the 4,000 awardees identified

#### **Fully Employed TCSG Awardees:**

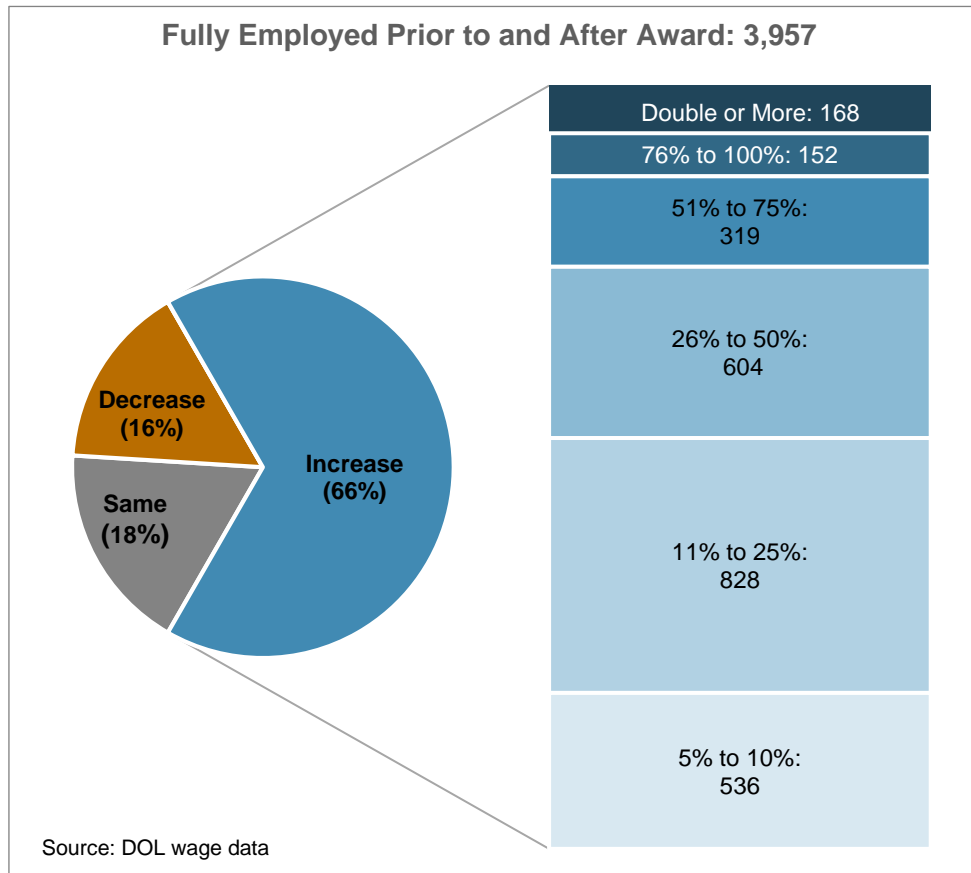
*46% new full employment*

*Median wages increase  
by about 22% among  
those previously  
employed*

as fully employed prior to and after their award in the fall of academic year 2017, approximately 66% (2,600) saw at least a 5% increase in their earnings. Approximately 16% of awardees (635) had lower identified earnings, though for most of these graduates this may be due to continuing education while also working.

### Exhibit 12

#### Approximately 66% of Fully Employed Awardees Increased Identified Earnings by at least 5% Following their Award (Fall AY17)



While changes varied by college and program, the majority of all fully employed awardees saw increases in wages following their award regardless of what they majored in or where they attended.

- **College** – Across colleges, the median wage increase by term averaged between 16% (Georgia Piedmont) and 45% (North Georgia). At every college, at least 60% of fully employed fall 2017 awardees had increased their wages by at least five percent (greater than 70% at four colleges).
- **Programs** – Fully employed awardees in top programs and programs eligible for the HOPE Career grant typically saw at least a 5% wage increase following their award. Commercial Truck Driving TCC awardees from fall 2017 earned approximately 29% higher median wages, for example, while Practical Nursing awardees increased their wages by approximately 40%.

During the period reviewed, approximately 43% of all awardees obtained multiple awards, which we observed to increase wages even further than a single award among fully employed awardees. For example, an Accounting major at Chattahoochee Tech obtained a diploma and multiple TCCs in the fall of academic year 2016, which increased their wages by 5% from \$36,200 to an estimated \$37,900. A degree in the following spring further increased wages by 44% to \$54,500. Likewise, a Culinary Arts major at Savannah Tech received their first award (a TCC) in the fall of academic year 2015, which increased wages by 17% from \$16,200 to \$18,900. Two degrees in the summer of academic year 2016 and fall of academic year 2017 increased wages further by 71% to \$32,200.

## RECOMMENDATION

1. TCSG should analyze awardees' wages and use the information to promote programs, determine program priorities, and provide information to prospective students. Given the likely prominence of self-employment or contractor work within certain programs, DOL data should be supplemented with standardized surveys to awardees.

*Agency Response:* TCSG agreed with this recommendation and emphasized the necessity of regular surveys to establish a more thorough account of those who are employed by including those who are self-employed or subcontractors, as well as those who work in bordering states. TCSG also stated that it is working on an agreement to join the Statewide Wage Interchange System, which will allow them to obtain information on awardees employed in bordering states.

TCSG noted that while they do analyze wage data as needed, "we have not published wage data for colleges due to the wide variations from program to program that make an aggregate of the information misleading." TCSG referenced wage information provided in the Governor's Office of Student Achievement Higher Learning and Earnings report, which reports median earnings by award type as well as popular programs. TCSG stated it has also used information provided by the Bureau of Labor Statistics.

**Finding 2:** Approximately half of TCSG’s traditional students leave their college prior to obtaining an award.

Approximately 44% of students who recently began at a technical college had obtained at least one award by the end of academic year 2019 (which leads to higher wages), while approximately half left prior to obtaining an award. Following their departure, these students frequently obtained employment or transferred to a four-year institution. College staff also stated students may leave due to academic performance that impacts financial aid, as well as personal challenges.

As previously discussed, TCSG is charged with developing a workforce through certificate, diploma, and degree programs. In its current strategic plan, TCSG has a goal to increase the number of awards obtained by 5% by the end of academic year 2023. This is reasonable, given that when graduates obtain full-time employment, these awards will typically lead to a wage nearly 10% higher than the statewide household median wage (see previous finding).

To determine whether TCSG students who begin at a technical college<sup>14</sup> obtain an award, we tracked the outcomes of those who enrolled for the first time between academic years 2015 and 2017. This period was selected to allow students at least two academic years to obtain each type of award (certificate, diploma, or degree). We categorized students in one of three outcomes:

- **Awardee** – Obtained at least one award from the same technical college by the end of academic year 2019
- **Enrollee** – Did not obtain an award but was still enrolled at the same technical college in the fall of academic year 2020 (the most recent enrollment data available)
- **Leaver** – Did not obtain an award and was not enrolled at the technical college during the fall of academic year 2020

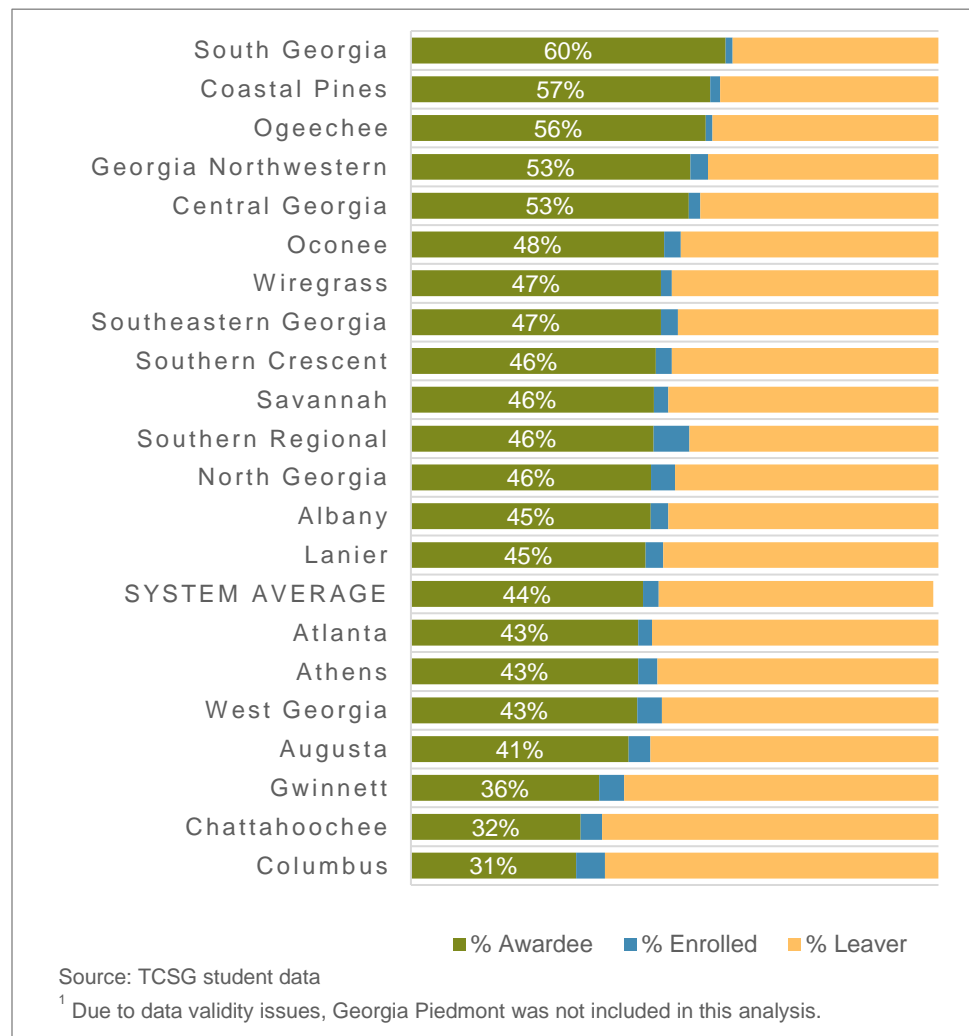
*44% of traditional students who began technical education between AY15 and AY17 obtained an award by AY19.*

By the end of academic year 2019, approximately 44% of TCSG’s 71,800 beginning students (31,900) had obtained at least one award from the college in which they initially enrolled. Approximately 53% of awardees (16,800) obtained their first award (most often a certificate) within their initial academic year, and approximately 84% (26,700) obtained it within two academic years. Approximately 37% of awardees obtained more than one award—while TCCs were still the most common award level overall (63%), diplomas and degrees comprised a larger percentage (21% and 17%, respectively).

Award rates by technical college varied, ranging from 31% to 60%, with 14 colleges averaging above the system award rate of 44% (see Exhibit 13). At least half of beginners obtained awards at only five colleges.

<sup>14</sup> Analysis was limited to currently open technical schools; those closed due to mergers in 2015 and 2016 were excluded. Additionally, Georgia Piedmont was not included in this analysis because it did not categorize students in a way that allowed the audit team to distinguish traditional, regular students from populations we excluded from other colleges.

**Exhibit 13**  
**College Award Rates among Beginning Students Ranged from 31% to 60% (AY 2015-AY 2017)**



Award rates also varied by program, as described below (see [Appendix F](#)):

- **Top Programs** – Among the 33 most popular majors<sup>15</sup> initially declared by beginners, award rates ranged from 8% to 81%. In 11 programs, at least half of beginning students obtained an award, while more than half had left without an award for 21 programs.

For some programs, students obtained the award they originally declared, while others may have obtained certificates rather than diplomas or different certificates in the same industry area. For example, Commercial Truck Driving TCC enrollees had the highest award rate of any program (80%). By contrast, while nearly 73% of enrollees in the Diesel Technology diploma program obtained an award, only 41% obtained the diploma (most instead

<sup>15</sup> These programs comprised 70% of the majors that beginners selected when they initially enrolled at the technical college. Students may change their major during their tenure at a technical college.

obtained TCCs in the same field). A notable exception is the Emergency Medical Technician (EMT) TCC: while 27% obtained that award, an additional 37% obtained a higher award (Advanced EMT TCC or EMS degree).

- **HOPE Career Grant Eligible Programs** – Nearly 40% of beginning students initially declared a major eligible for the HOPE Career Grant during the period reviewed. Award rates for these programs averaged approximately 53%, compared to the 39% for ineligible programs. Rates ranged from 17% (Certified Engineer Assistant) to 89% (Electrical Line Worker). Students who initially enrolled in an eligible program generally obtained an award in that field.

Nearly 94% (37,500) of the approximately 40,000 beginning students who did not obtain an award by the end of academic year 2019 were not enrolled at the technical college in the fall of academic year 2020. TCSG central office and technical college staff we interviewed provided multiple reasons a student may leave prior to an award, some of which we could confirm using student data. Reasons include:

- **Employment** – College staff stated that in certain programs, employers will recruit students who have obtained a specialized skill prior to even obtaining a full TCC. Using Department of Labor wage data, we identified 60% of leavers were employed for the full year after their last semester at TCSG.<sup>16</sup> The median wage for fully employed leavers<sup>17</sup> (\$24,900) was 20% lower than those who obtained an award.
- **Transfer to a Four-Year Institution** – Staff at some technical colleges acknowledged their school was often used as an intermediate step between high school and four-year institutions. We identified 12% of leavers (4,500) transferred to a four-year institution following their departure from TCSG, with college percentages ranging from 6% to 17%.
- **Academic Challenges** – TCSG's open admissions policy may mean not all accepted technical college students are prepared for college. Beginning students who left prior to obtaining an award did not earn credits for 40% of the hours they attempted, either because they withdrew from or failed the class. Additionally, approximately 64% of leavers earned less than a 2.0 GPA—which is necessary to show satisfactory academic progress and keep state financial aid (HOPE Grant)—during at least one term in which they were enrolled.
- **Personal Challenges** – Technical college staff stated one of the most common reason students leave is financial struggles—either because they have lost their financial aid or must prioritize employment to support their families. Technical college staff also mentioned childcare challenges, a lack of internet

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<sup>16</sup> Due to the availability of employment data, this analysis was limited to the 23,200 students who left between the fall of academic year 2015 and the fall of academic year 2017, which equates to approximately 62% of the 37,600 leavers.

<sup>17</sup> Similar to graduates reviewed in finding on page 12, we reviewed the wages of leavers who were employed for three or four quarters, were not also continuing post-secondary education, and earned above the minimum wage, which comprised approximately 32% of total leavers. Approximately 40% of leavers only working three or four quarters earned less than the minimum wage, compared to 20% of graduates.



connectivity, and lack of preparedness due to being a first-generation student.

As discussed in the finding on page 36, TCSG tracks “retention rates” differently than we have described in our analysis; as such, variations in the award rate have been less transparent. However, TCSG and the technical colleges are aware of the challenges with retaining students and have put forth several initiatives to keep students at the colleges long enough to obtain an award.

- **Early Intervention** – In 2014, central office implemented a program on each college campus to identify students at risk for leaving the technical college and refer them to support services (e.g., tutoring, counseling). Central office tracks the number of referrals and retention data for students receiving services. College participation varies (ranging from 2% to 27% of enrollment), though the number of students with an alert increased at 12 colleges (by 17% overall) between the fall of academic year 2018 and the fall of academic year 2019. Colleges with lower award rates generally have a larger number and proportion of alerts. According to TCSG reports, approximately half of the students with referrals in academic year 2019 subsequently either obtained an award or remained enrolled (with colleges ranging from 41% to 69%).
- **Increased Award Opportunities** – While TCCs have always been embedded into diploma and degree programs, TCSG has been working to include them in all programs since academic year 2012. This helps ensure more students can take an award with them when they leave or more quickly move to employment as they continue their education. Additionally, at least one college does not require a student to apply for an award to receive it; rather, they automatically receive a certificate when the necessary coursework has been completed.
- **Financial Aid** – Through their foundations, colleges provide additional financial aid to students through scholarships and small grants to cover tuition and fees assistance. The system also has a foundation that provides funding to the colleges based on graduation and retention rates as well as the percentage of students receiving federal financial aid.
- **Student Affairs Services** – Technical college staff credited counseling services, student life activities, and learning support with addressing retention issues.

## RECOMMENDATIONS

1. TCSG central office should continue its efforts to create a stackable credentialing plan so more students leave with an award.
2. TCSG central office and technical college staff should monitor data obtained from the Student Navigator program and its Banner data system to determine why students leave. As solutions are identified, central office should ensure that colleges are sharing best practices.
3. Given the variation among colleges (2% to 27% utilization), TCSG central office should ensure technical colleges are utilizing the Student Navigator early referral program at similar rates.

***Agency Response:** TCSG agreed with all recommendations, highlighting its efforts to embed credentials within programs “whenever appropriate” and utilize information from the Student Navigator program. Specifically, TCSG mentioned that the central office conducts regular training for colleges on how to determine and meet student needs through relevant counseling and resources (e.g., tuition, financial aid). TCSG noted its “Last Mile Fund” was established after the Student Navigator Program to help students who owe \$500 less remain enrolled. TCSG noted it has documented case studies “that confirm the proper use of the program results in retention and enrollment increases. We will continue our dedication to replicate these best practices.”*

**Finding 3: Although TCSG and technical colleges have recruiting efforts in place, improvements could be implemented to bring in more traditional students.**

While TCSG and most technical colleges have observed an overall increase in enrollment in the last three years, enrollment of traditional technical education students has decreased. Technical colleges work to recruit new students through a variety of methods, and improvements in web presence and central office efforts may further assist in bringing additional students to the colleges.

Increased recruitment may help more individuals earn awards to obtain better jobs and higher wages. As mentioned in the finding on page 12, TCSG graduates who worked a full year earned wages slightly higher than Georgia’s median household income. Additionally, according to the Bureau of Labor Statistics, occupations requiring workers to have a postsecondary non-degree award (e.g. certificate or diploma) or an associate degree paid a higher median annual wage than occupations for high school level workers in 2017.

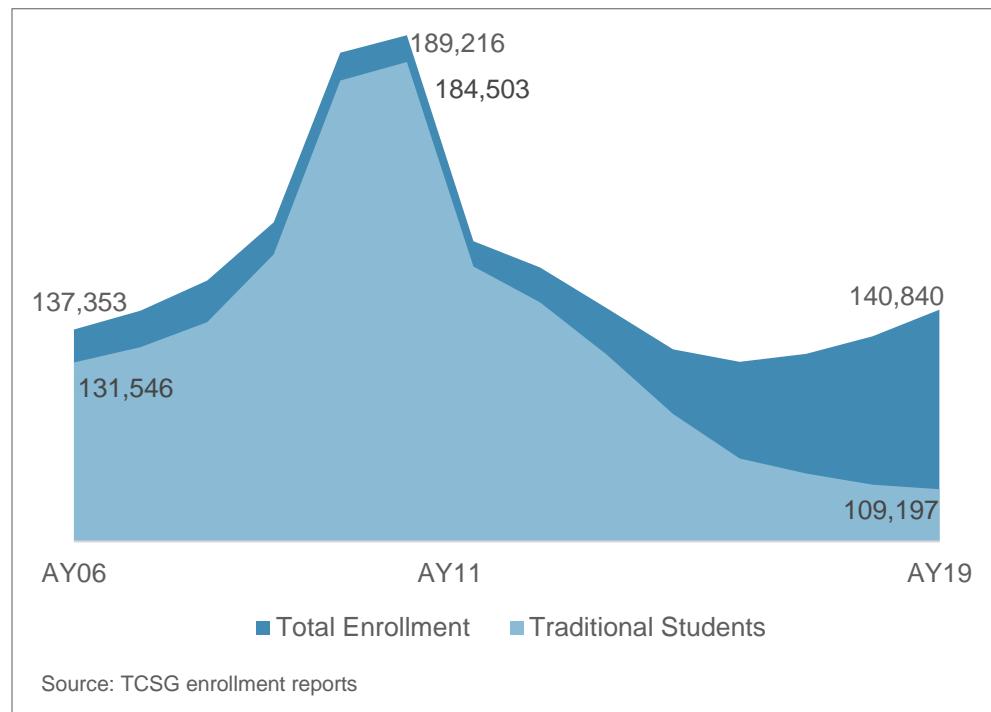
As shown in **Exhibit 14**, TCSG enrollment has fluctuated over the past 13 academic years. Between academic years 2006 and 2011, enrollment increased by approximately 38% from approximately 137,000 students to approximately 189,200. Enrollment decreased between 2011 and 2016, but it has since increased by 7% to nearly 141,000 enrollees in 2019. While total enrollment has increased, traditional student enrollment has decreased by 41% since 2011. At the college level, this population has decreased by as much as 57%, with 14 colleges experiencing a decrease of 40% or more. As discussed in the next finding, this decrease has been masked due to the simultaneous increase in the dual enrollment population.

According to TCSG and other states’ agency staff, technical education enrollment has an inverse relationship with the economy. This means that if the economy experiences a downturn and job availability is subsequently limited (as evidenced between 2009 and 2011 in **Exhibit 14**) enrollment increases as more people seek new training.<sup>18</sup> However, if the economy is good and jobs are available and stable, technical education enrollment decreases (as evidenced in the years following 2011).

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<sup>18</sup> If a recession were to occur in the coming year(s), TCSG may experience an increase in enrollment similar to the trend observed following the last recession (beginning in 2008).

**Exhibit 14**  
**Traditional Student Enrollment Has Decreased by 41% Since AY 2011**



College staff also stated that decreases in enrollment are due to the stigma surrounding technical education and an overall lack of awareness from the general public about TCSG and its offerings. According to college and agency staff, technical education is often perceived as a “trade school” and a second choice to a four-year degree. College staff shared that technical education is not often promoted to high school students as a viable option following graduation and that high school guidance counselors tend to instead direct students to four-year institutions.

To increase enrollment, central office and technical colleges engage in various recruitment activities. At the system level, central office staff primarily uses traditional and social media marketing to promote TCSG and its colleges. Technical colleges focus their efforts to reach out to potential students in their service delivery area through high school visits, campus tours and open houses, social media marketing, and collaborations with other state agencies, among others.

Although TCSG and technical colleges have recruitment efforts in place to increase enrollment, there are additional efforts and improvements they should consider to further assist in recruiting more students.

#### Improve TCSG & College Websites

System and technical college websites are a common avenue for prospective students and others to learn about technical education, including its costs and benefits. While system and individual colleges’ websites include helpful information (e.g., admission requirements), their potential to market technical education as a viable postsecondary option has not been maximized.

Other states' websites we reviewed include elements that promote technical education, which TCSG and colleges could incorporate. For example, Wisconsin has pages dedicated to dispelling myths associated with technical education and comparing its average cost to that of other institutions. Additionally, Tennessee created college profiles that list the credentials and programs offered and student outcomes at each college, while the TCSG system web page for its colleges only provides the locations and contact information (including website and social media links). Other states also list tuition and fees, as well as transfer agreements or direct links to agreements, in an easy-to-find location, unlike TCSG. Finally, Kentucky and Tennessee system websites promote their programs using wage data.

TCSG and the colleges could also standardize specific elements across the colleges. Some technical colleges' websites included retention rates for their programs (and even fewer provided wage information), while others did not. Additionally, not all colleges provided information related to application and financial aid deadlines.

### **Continue Georgia Department of Education & Local High School Collaborations**

As previously discussed, agency staff cited stigma as a challenge to recruiting high school students. However, TCSG student enrollment data shows that among traditional technical education college enrollees, approximately 31% came with one to three years postsecondary education (without a bachelor's degree), which could indicate that technical education may have been a more appropriate postsecondary option.

While technical college staff indicate they work to build relationships with local high schools, central office staff stated TCSG has generally worked with the Georgia Department of Education primarily on the dual enrollment program. However, since only approximately 25% of dual enrollment students remain within the technical college system following their high school graduation, this does not necessarily result in higher traditional student enrollment. TCSG should collaborate with Georgia Department of Education staff to ensure that high school counselors have the information they need to advise any student who may have an aptitude or preference for the programs offered at the technical colleges.

Additionally, TCSG and the technical colleges can use available data to identify potential areas that may benefit from increased recruitment. From its longitudinal dataset on Georgia's students, the state reports high school graduate outcomes, which shows that approximately 37% of those who graduated in 2017 (the most recent data available) did not pursue postsecondary education. Information can be extracted at the county and school level, which could be used to target upcoming marketing efforts and campaigns.

### **Continue Collaborations with Other State Agencies**

In addition to high school graduates, other populations served by state agencies may benefit from technical education that can result in gainful employment. This includes Georgians served by the state's Departments of Labor and Human Services due to un- or under-employment, as well as individuals being released from the state's Departments of Corrections and Juvenile Justice.

Some technical college staff we interviewed reported working with these agency offices in their service delivery area to increase awareness of technical education. For

example, college staff will go to Department of Labor fairs when a local plant closes or contract with the Department of Corrections to educate incarcerated individuals. Additionally, central office staff reported collaborating with the Department of Family and Child Services, the Department of Early Care and Learning, and the Georgia Department of Labor on various initiatives.

### Evaluate Recruitment Efforts

According to agency staff, technical colleges use data analytics from their digital marketing efforts to evaluate the effectiveness of recruitment; however, it is difficult to evaluate the effectiveness of traditional marketing. Given the various strategies TCSG and technical colleges use to recruit new students, a review of all recruitment efforts should be performed to determine the effectiveness of these measures and whether any efforts should be adjusted or implemented throughout the state.

## RECOMMENDATIONS

1. TCSG central office should improve the marketability of its website by making information such as tuition and fees easily accessible, as well as including materials that promote technical education.
2. TCSG central office should determine best practice elements that the colleges should include on their websites, which may include program outcomes such as wages, as well as application and financial aid deadlines.
3. TCSG central office should continue to pursue collaborations with other state agencies (as well as identify new ones), and technical colleges should continue to build relationships with local schools and agencies to increase enrollment.
4. Technical colleges should use state longitudinal data to identify and actively target areas in Georgia where new high school graduates are not attending post-secondary institutions or are only employed.
5. Technical colleges should evaluate all recruitment efforts to determine the effectiveness of these measures and whether any efforts should be adjusted and refocused.

***Agency Response:** TCSG agreed with all the recommendations and highlighted its efforts two years ago to improve the system office website and redesign four colleges' websites. TCSG noted that promotional materials on the website are based on market testing. For example, it added information regarding HOPE Career Grant programs rather than promoting other programs because it is tuition free and relates to programs in which there is a skills gap in the market. While TCSG noted it has a chat box feature to provide information about pricing, it would add language to its informational pages as well. TCSG also stated it would research the feasibility of further promoting technical education on its website, noting it is launching a marketing campaign that will illustrate the top selling points of technical education (high career placement, affordability, and flexibility). TCSG stated it will continue its effort to standardize college websites "upon resource availability" but will work to update information on current pages as well.*

TCSG stated that it is currently working with the Governor's Office of Student Achievement to collect data and working with the Georgia Department of Education to identify high school graduates who do not attend post-secondary institutions. Staff are also working to identify former dual enrollment students who did not continue their postsecondary education, which will help target recruiting efforts.

*Finally, TCSG noted that it has shifted more resources to digital marketing and has tracked the number of web site clicks and individuals who have started an application among the 15 colleges who began campaigns. Based on the “initial positive results from these advertisements, we are actively looking to expand within colleges and add additional colleges to this strategy. We will continue to evaluate effectiveness and adjust strategies accordingly.”*

**Finding 4: The dual enrollment population should be further evaluated for its impact on technical colleges’ budget and operations, as well as outcomes.**

Dual enrollment has nearly tripled since academic year 2015, and high school students have become a significant population at some technical colleges—typically replacing declining traditional student populations. While this has enabled TCSG to maintain the credit hours that determine the state’s funding allocation to TCSG, colleges do not receive as much local funding for enrolled high school students. Additionally, dual enrollment students’ goals do not necessarily align with the TCSG’s primary mission of workforce development, which could impact outcomes. As such, the population’s impact on TCSG and the technical colleges should be further evaluated.

In recent years, dual enrollment students have become an increasing proportion of the total student population, as shown in [Exhibit 15](#). While TCSG’s traditional student population has declined by approximately 11% from academic year 2015 to 2019, the dual enrollment population has nearly tripled, comprising 22% of the enrolled population in academic year 2019, compared to 9% in academic year 2015. It should be noted that recent legislative changes<sup>19</sup> to the population and number of credit hours eligible for state payments may change future numbers and proportions.

The prevalence of dual enrollment students is even more apparent at the college level, where the proportion ranges from 7% (Atlanta) to 52% (Coastal Pines) and represents more than 25% of enrolled students at seven colleges (the percentage of dual enrollment students by college can be found in [Appendix D](#)). Since academic year 2015, dual enrollment has more than doubled at 18 technical colleges and more than tripled at 10 colleges.

The increase in high school students has helped maintain—and even recently increase—overall enrollment despite the declining traditional student population (see [Exhibit 14](#) on page 23). This assisted with increasing the technical colleges’ fiscal year 2020 state funding allocation for personal services, which is based on the number of credit hours from prior years.<sup>20</sup> Dual enrollment students are included in these

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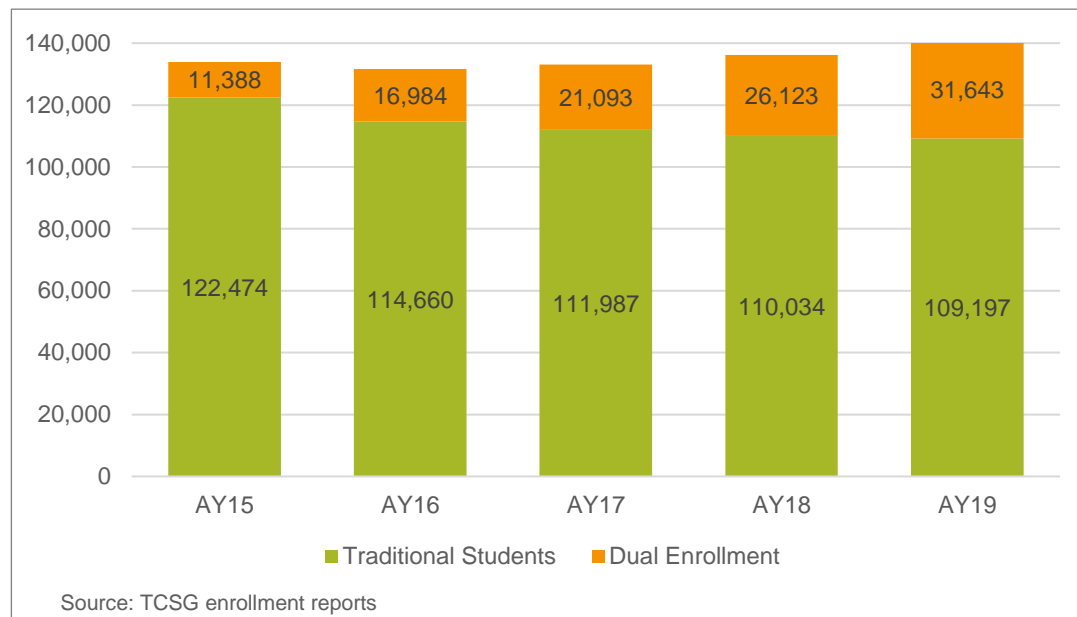
<sup>19</sup> Effective July 1, 2020, the dual enrollment population covered under state funds will be limited to 11th and 12th graders, as well as 10th graders who meet certain requirements, which includes taking occupational courses at a technical college. Additionally, state funded semester credit hours will be limited to 30 per dual enrollment recipient, or the quarter hour equivalent.

<sup>20</sup> While TCSG’s state allocation is technically based on credit enrollment from two years’ prior, the state has not adhered to the formula since the 2008 recession. During that time, the state could not increase funding commensurate with its higher enrollment. Likewise, the state did not decrease funding when TCSG’s enrollment decreased as the economy improved. Fiscal year 2020 was the first year the state returned to connecting TCSG’s appropriation to its enrollment increase.



calculations and have become an increasing proportion (from 5.7% of total credit hours in fiscal year 2015 to 16.2% in fiscal year 2019).

**Exhibit 15**  
**Dual Enrollment is an Increasing Proportion of Total Enrollment**  
**(AY 2015-AY 2019)**



While dual enrollment has helped increase the state allocation, it does not generate as much local funding for the colleges as traditional students would. In the fall of academic year 2019, for example, technical colleges received approximately \$6.1 million more from the 15,300 traditional beginning students than the 18,200 dual enrollment students. This is because colleges received significantly less in fee revenue from dual enrollment students compared to traditional students. It should be noted that at beginning in academic year 2020, all fees for dual enrollment students were eliminated; as such, this gap will increase.

It is unclear the extent to which revenue received from dual enrollment students sufficiently cover the expenses. Technical colleges may manage dual enrollment in different ways—college staff we interviewed stated they may send faculty to high schools or host dual enrollment students on their campus. Staff stated that either way generates expenses (e.g., faculty travel and time) that are not fully covered. However, dual enrollment students also commonly take general education courses, which are more efficient and often help pay for the more expensive occupational courses.

Additionally, state resources in dual enrollment at the technical colleges do not necessarily align with the broader mission of workforce development. For example, dual enrollment students are less likely than traditional students to obtain an award while in the program. Among the 54,300 students identified as dual enrollment between academic years 2015 and 2018, 18% (9,700) obtained an award prior to their high school graduation. This proportion is significantly lower than that of traditional beginner students, which have an award rate of approximately 44% (see finding on page 18).

While central office and college staff stated that dual enrollment creates a potential source of new traditional students, it appears most dual enrollment students are primarily focused on transferring to four-year institutions. Among the 25,600 who graduated high school between 2015 and 2018 and continued their education, approximately 78% (20,800) attended a four-year institution in the subsequent year, compared to 25% (6,400) who attended a technical college (an additional 1,700 attended a technical college more than a year after high school graduation).<sup>21</sup> At all technical colleges, more than 60% of former dual enrollment students went to four-year institutions, with rates exceeding 90% at three colleges.

It should be noted, however, that dual enrollment students who remained at a technical college after high school graduation were more likely to obtain an award. Among the 8,100 former dual enrollment students who subsequently became traditional students, approximately half (3,800) obtained at least one award by academic year 2019. This is slightly higher than traditional beginner students, and it is nearly three times the rate of other dual enrollment students.

While TCSG measures the outcomes of its dual enrollment students as it pertains to its own recruitment and retention goals, dual enrollment also serves a broader state purpose of increasing all postsecondary access and decreasing the time and cost to obtain a credential. This was outside the scope of this audit, but it should be reviewed in the future (trend data is available to track across high schools and postsecondary institutions). Because the increasing prevalence of dual enrollment students began in academic year 2015, there will soon be a cohort of students who will have graduated from high school and had enough time to obtain a postsecondary credential from a technical college and/or a four-year institution.

## RECOMMENDATIONS

1. Central office should collect information necessary to assess dual enrollment's impact on technical colleges' revenue and expenditures to determine whether dual enrollment pays for itself with the increased state allocation but decreased local revenue.
2. The General Assembly should consider assessing whether dual enrollment achieves its overall mission. Based on the purpose stated in legislation (HB 444) passed in 2020, this could include examining whether students ultimately graduate from a four-year institution and whether the time and cost to obtain a college degree is lower for former dual enrollment students compared to those who did not participate in the program.

***Agency Response:** TCSG agreed with both recommendations and stated it is working to calculate the financial impact of dual enrollment. TCSG noted that the dual enrollment program is "beneficial to students who may otherwise be unable to participate in technical education and advanced coursework" (such as those in rural areas). Additionally, TCSG stated "this has been an opportunity for our colleges to be introduced to a population that would not otherwise consider a technical college." TCSG cited technical colleges' increased visibility due to the program and that "exposure to our colleges is helpful in...erasing the stigma of technical education."*

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<sup>21</sup> Approximately 3% (825) attended both a four-year and technical college in the year following their high school graduation. An additional 9,500 former dual enrollment students did not continue their education after their high school graduation.



*TCSG also stated that while it is supportive of more research being done on dual enrollment, “a student who is able to continue at a postsecondary institution of any level upon attending one of our colleges for dual enrollment should be considered successful. This is a metric within the scope of workforce development. Additionally, such a pathway for students is typically more cost efficient for the state’s dual enrollment program.”*

*Finally, TCSG highlighted the recent legislative changes that allow 10<sup>th</sup> graders to attend technical colleges and take occupational courses under the dual enrollment program. TCSG stated that “given the market demands for such skillsets, we are hopeful to see an increased number of dually enrolled students participate and obtain awards in these areas.”*

**Finding 5: Statewide agreements for general education appear to meet the needs of transfer students; however, significant gaps exist in coverage for occupational coursework.**

Most general education courses transfer under articulation agreements between TCSG and the University System of Georgia (USG). However, there are not similar agreements in place to cover the occupational coursework taken by thousands of TCSG students who earn an award and then transfer to a four-year institution. Most agreements are not statewide but rather operate between individual institutions. Additionally, the agreements are not regularly reviewed at the system level to ensure they apply to the current transfer population. As a result, transfer students must potentially retake classes, which extends the time and financial investment required to earn a related bachelor’s degree.

As previously discussed, TCSG students may transfer to four-year postsecondary institutions after taking courses or obtaining an award at a technical college. During our review, we identified approximately 35,000 former TCSG students who continued education at a four-year institution between academic years 2015 and 2020. These included 17,900 former dual enrollment students, 12,500 TCSG graduates, and 4,500 who left TCSG without obtaining an award.<sup>22</sup> Most students transferred within the year following their departure from TCSG.

To minimize coursework duplication, transferring and receiving institutions create formal articulation agreements to accept credits already obtained for similar required classes. Under the state’s Complete College Georgia initiative, which works to increase degree attainment across the state by removing barriers such as college access and cost, TCSG and the USG have prioritized improving articulation agreements to shorten the time it takes for students to obtain a degree.

Currently, TCSG has approximately 1,200 articulation agreements that have been created over time, primarily between individual technical colleges and four-year institutions. These agreements can be established for individual occupational or general education courses or for comprehensive occupational award programs, as described below.

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<sup>22</sup> Approximately 3,200 dual enrollment students obtained an award during the period of our review.

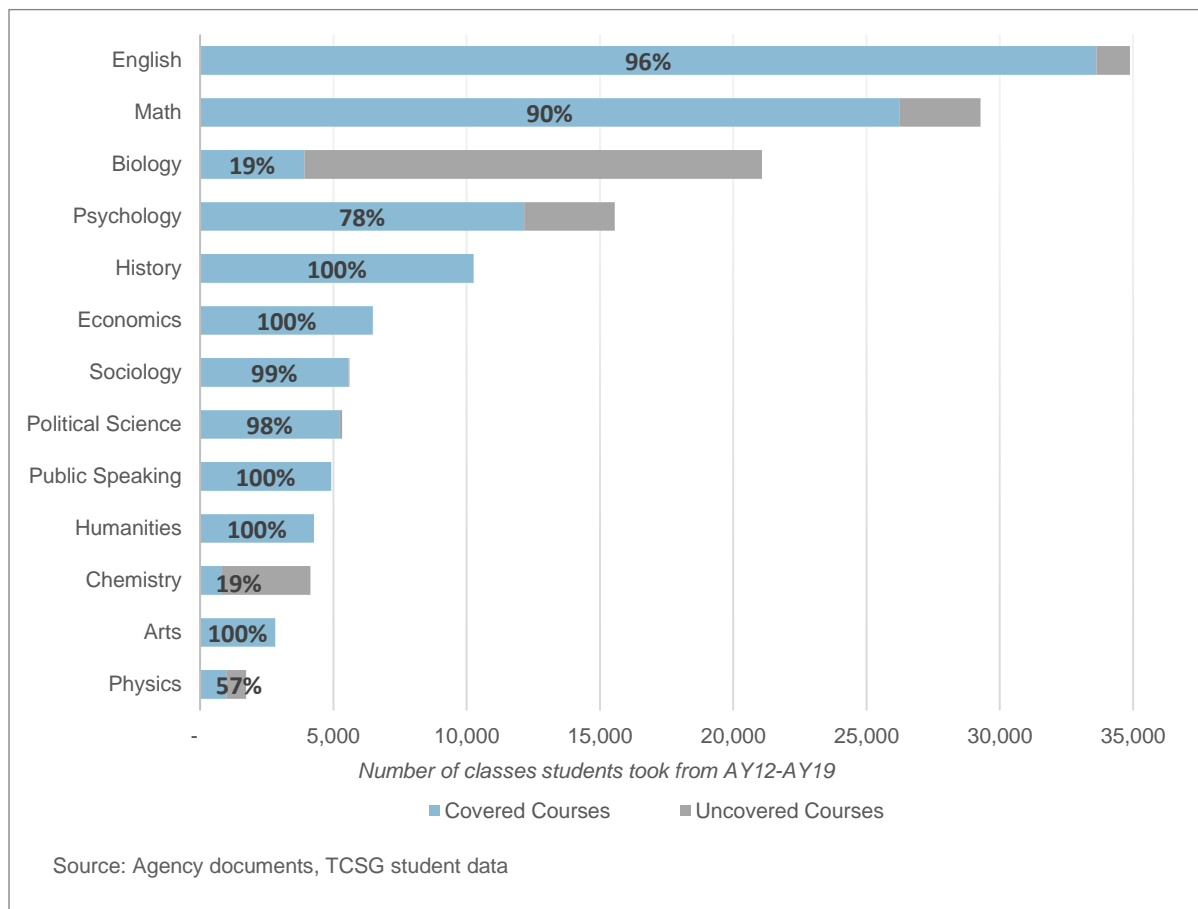
### General Education Agreements

The predominate general education agreements are between TCSG and USG, which guarantee credit transfer for 28 courses (e.g., English Composition) from any technical college to any USG institution. Because they are course-related (rather than requiring an award), they are likely to benefit a significant portion of transferring students (71% of those in our review took at least one general education course).

According to TCSG staff, the 28 agreements were created in 2012 as part of the Complete College Georgia initiative. Eligible courses were determined based on course similarities between TCSG and USG, as well as course enrollment figures at the time. TCSG's central office staff indicated agreements have been reviewed against curriculum data but could not confirm when they were last evaluated. TCSG plans to perform a review in 2020.

As shown in Exhibit 16, the 28 agreements covered 80% of general education courses that transferring students took under the relevant subject areas. At least 80% of the courses taken were eligible for transfer in 9 of the 13 subject areas. Students most commonly took English and math courses, most of which were covered under the agreement.

**Exhibit 16**  
**TCSG's 28 Articulation Agreements with USG Cover 80% of Applicable Transfer Courses**



### Occupational Agreements

Most of the courses not covered under an agreement were science classes. This included most biology courses (particularly four Anatomy and Physiology courses and labs) and chemistry courses (such as Chemistry I). Additionally, Basic Psychology and Human Development classes, which comprised 20% of psychology courses, were not covered under a statewide agreement.

The majority (95%) of TCSG's agreements are related to occupational award programs. Agreements for award programs can allow more credit hours to transfer than if the student only took courses without obtaining an award. For example, a student may obtain an associate degree in Nursing from a technical college; with an agreement in place, this associate degree would provide the student 60 credit hours at a four-year institution if they decided to seek a bachelor's degree in Nursing. Without the degree in Nursing, the student would have to rely on agreements for specific individual courses.

Unlike general education, there are few agreements<sup>23</sup> for specific occupational courses (e.g., Introduction to Accounting), which comprised approximately 68% of the classes transferring students—mostly those who obtained awards—took at the technical colleges. Given the prevalence of graduates who left TCSG with a TCC or a diploma (see **Exhibit 17**), agreements for occupational courses would provide additional opportunities to assist transferring students, particularly since this population may not also have general education credit.

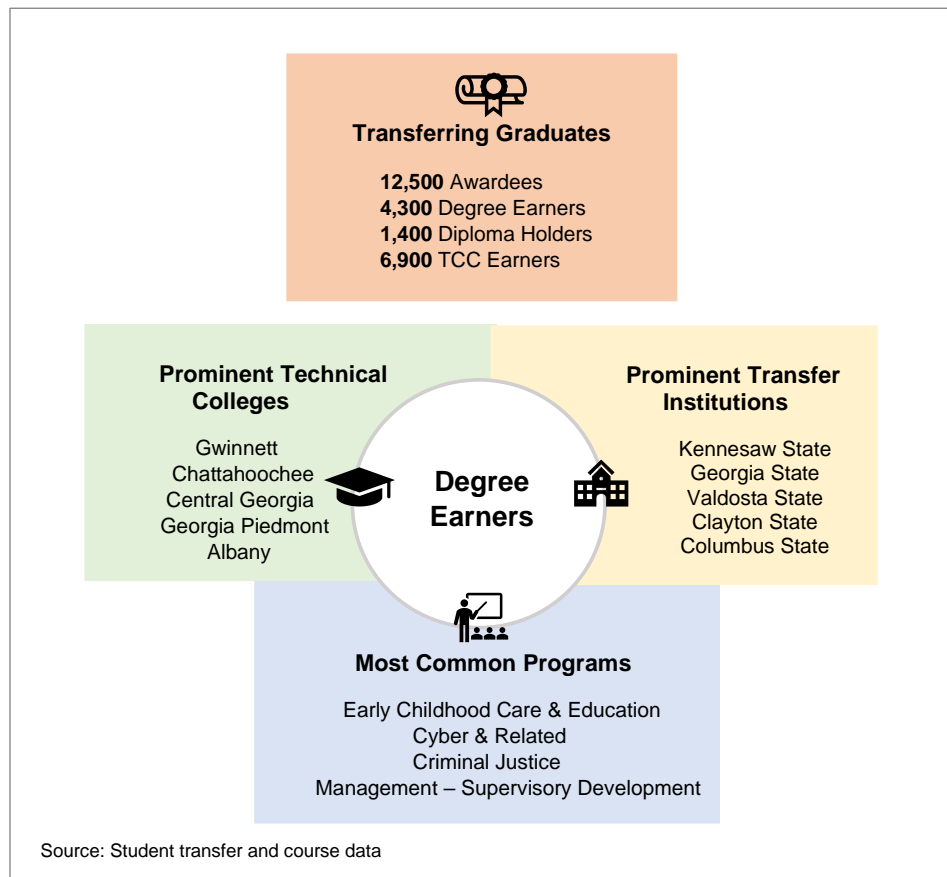
Nearly all TCSG's occupational-related articulation agreements require a degree. As shown in **Exhibit 17**, approximately 34% (4,300<sup>24</sup>) of the 12,500 TCSG graduates had a degree when they transferred to a four-year institution, commonly to obtain a bachelor's degree in a related field. Most obtained an applied associate degree, which devotes more credit hours to technical courses than general education classes. Only 2% of degree earners obtained a traditional associate degree, which TCSG staff state is the most easily transferred award because the curriculum requires more general education credit hours.

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<sup>23</sup> TCSG has six agreements related to occupational coursework, but they applied to less than 8% (2,800) of the transferring population.

<sup>24</sup> This represents approximately 12% of the total population of transferring students we reviewed.

**Exhibit 17**  
**Approximately 12,500 Graduates Transferred to Four-Year Institutions (AY 2015-AY 2019)**



While degree earners are more likely to gain occupational credit for their award, they are not necessarily benefiting. Unlike the general education agreements described above, occupational agreements are not statewide, meaning no occupational program award will transfer from all technical colleges to all four-year institutions. As a result, credit transfer is dependent on individual, often ad-hoc agreements between two institutions. Through our review of TCSG's reported agreements, we identified the following gaps:

- **Few relevant agreements with common transferring institutions** – Approximately half (2,300) of TCSG degree earners transferred to seven four-year institutions in the period reviewed. However, the number of relevant agreements varied by institution. For example, Valdosta State University has 466 agreements with all TCSG colleges. As a result, approximately 96% of the 317 TCSG degree earners who transferred to Valdosta benefitted from an agreement. By contrast, the most common transfer institution, Kennesaw State University, has 17 agreements with individual technical colleges (in addition to three program-specific agreements with all colleges). These agreements benefitted only 26% of the 628 transferring degree earners, primarily because it does not have agreements related to Cyber degrees, which nearly 40% of incoming transfers had earned.

- **Degrees accepted from some technical colleges but not others** – We observed several instances in which a four-year institution accepts a degree from certain technical college but not others, which presents inconsistencies across the system. For example, Nursing is a common program for technical college transfers who attend Columbus State University. However, the institution only has agreements to accept a Nursing degree from Columbus Tech and Wiregrass, where 30% of nursing transfers obtained their degree. As a result, those transferring from other colleges in the area (such as Albany and West Georgia) would not necessarily receive the same credits, despite also obtaining a Nursing degree.

Though most agreements are between individual colleges, TCSG has 26 agreements with six four-year institutions to accept specified occupational programs from any technical college. These agreements benefitted approximately 6% (241) of the 4,300 degree earners, the largest percentage of whom transferred to Mercer University with Early Childhood Education degrees.

- **Technical colleges lack agreements with prominent transfer schools** – Nearly half (2,000) of TCSG degree earners graduated from five technical colleges. Three of these colleges have few relevant agreements with the four-year institutions their former students commonly attend. For instance, approximately half (240) of Gwinnett Tech's 467 transfers attended Georgia Gwinnett College and Kennesaw State University. Gwinnett Tech only has three agreements with these institutions, which likely benefitted only 28 (12%) transferring degree earners. By contrast, Albany Tech has 45 agreements with Albany State and Valdosta State, where 62% of its transfers attend. As a result, 70% of students who transferred to those schools would have been able to receive credits related to their degrees.

Without the proper articulation agreements in place, classes former technical education students took to obtain their award may only transfer to a four-year institution as elective credits—if they transfer at all. As a result, students may have to retake classes, extending the time and financial investment to obtain a bachelor's degree in a related field (obtaining an associate degree typically takes two years to complete and costs approximately \$8,100). Out-of-pocket expenses may increase as well, since HOPE scholarship funds are limited to 127 attempted credit hours (associate degrees at TCSG typically require at least 60 credit hours).

According to TCSG staff, statewide occupational agreements are not as feasible as general education courses, because while the system offers standard programming across colleges, there might be slight differences among the technical colleges based on local employers' needs. However, it should be possible to standardize certain courses or even programs, as Tennessee has done for several occupational programs (e.g., Computer Science, Criminal Justice) that transfer from any technical college to any in-state public institution, as well as select private institutions.

Central office staff stated that while individual colleges may evaluate their agreements against student outcomes data, there has not been a systematic review for award programs, which would identify gaps in coverage and potential agreements to pursue. Data on transferring populations is available to TCSG through the National Student Clearinghouse or the state longitudinal student dataset.

## RECOMMENDATIONS

1. TCSG central office and technical colleges should regularly evaluate articulation agreements and make necessary adjustments based on student course and transfer data to facilitate seamless transitions to four-year institutions.
2. Central office should evaluate the need for further curriculum standardization to increase statewide transfer of occupational programs or courses that are prominent among its former students who subsequently attend four-year institutions.

*Agency Response:* TCSG agreed with both recommendations, stating that “as noted in the report, there is a case for expansion” and “the opportunity to expand the Valdosta State University model exists and should be explored with other higher education partners across the state.” TCSG also stated “there is potential for more science courses to become recognized by other postsecondary entities.” Finally, TCSG noted that “while we will vigorously pursue such agreements, the outcomes will ultimately hinge exclusively on the acceptance of a receiving institution.”

## Management & Operations

**Finding 6:** TCSG should determine how student transfers to a four-year institution should be included in strategic planning and performance monitoring.

TCSG has engaged in strategic planning that includes activities and measurable objectives that relate to increasing student awards and employability, which aligns with technical education’s mission of workforce development. However, additional work should be done to determine how student transfers to a four-year institution—also listed as a goal in the strategic plan—should be incorporated into objectives and strategies.

In the General Assembly’s annual appropriations document, the mission of technical education is to “provide for workforce development through certificate, diploma, and degree programs.” TCSG achieves this mission by providing occupational programs that generally lead to employment (see findings on page 12 and 40). However, some students may also attend the technical colleges only to obtain course credit prior to attending traditional four-year institutions. As described below, this varies by college.

- Of the 37,500 students who began at a technical college between academic years 2015 and 2017, approximately 4,500 (12%) later enrolled in a four-year postsecondary institution. Rates by college ranged from 6% to 17%, with five colleges exceeding the system average.
- Among the estimated 95,600 students who obtained their last award from TCSG between 2015 and 2018, 12,500 (13%) subsequently continued their education at a four-year institution. Rates by college ranged from 8% to 20% with 10 colleges exceeding the average.
- Of TCSG’s 25,600 former dual enrollment students who continued postsecondary education in the year after high school graduation, nearly 80%

(20,800) enrolled in a four-year institution, compared to 25% (6,300) who attended a technical college. Four-year postsecondary transfer rates ranged from 65% to 95%.

In its strategic plan for fiscal years 2020 through 2024, TCSG acknowledges its dual role by stating its goal of technical education is to “provide quality, industry-driven education and training that prepares students to enter the workforce or continue their education.” In doing so, this goal has defined “workforce development” to include moving students to either employment or additional education, presumably at a four-year institution.

While continuing education is incorporated into TCSG’s technical education goal and articulation agreements are mentioned in the strategic plan’s narrative, the current strategic plan does not include any activities or strategies related to that outcome, nor does it establish what the balance between the employment and continuing education should be. This is important because the two outcomes are not always aligned. For example, as described in the next finding, if an increasing proportion of technical students are not immediately entering the workforce, TCSG’s performance outcomes related to employment decrease.

Additionally, a focus on continuing education means offering more general education courses that will be accepted by four-year institutions, potentially at the expense of occupational courses. System and college staff indicated this does not occur and that revenue from general education enrollment helps pay for occupational courses. However, currently general education courses comprise an estimated 26% of TCSG’s program expenditures and 32% of total credit hours. In academic year 2019, the proportion of colleges’ general education courses ranged from 17% to 61%, with five colleges exceeding the system average of 37%.

The variance of continuing education among colleges indicates that formalizing that goal may be more appropriate at the college rather than the system level. Among the 11 college strategic plans we reviewed, three included goals, strategic initiatives, or objectives related to supporting continuing education as a goal. For example, the strategic plan for Central Georgia (which has a relatively large population of transfer students) lists an objective to “provide educational opportunities for articulated credits to other two and four-year post-secondary institutions.” Other colleges with a prominent transfer population did not include such language in their objectives, however, and no college had measurable goals related to continuing education.

Activities at the system level should also be incorporated into TCSG’s future strategic plans. This would include:

- Tracking four-year transfers separately from employment when calculating placement rates and excluding awards and enrollment at four-year institutions when calculating retention rates (described in the next finding).
- Assessing the extent to which agreements between technical colleges and four-year institutions may be created or improved to ensure students can transfer occupational courses and awards in addition to general education courses (described in the finding on page 29).
- Evaluating what proportion of credit hours and program expenditures general education should comprise to use as a baseline when assessing future growth.

The appropriate percentage may differ by college depending on the needs of their students (e.g., more obtain associates' degrees or transfer to four-year institutions).

### RECOMMENDATIONS

1. In its strategic plan, TCSG should establish specific activities and metrics related to the stated goal of preparing students to continue education.
2. Technical colleges should determine what specific activities and metrics related to continuing education should be included in their strategic plans.
3. TCSG and the technical colleges should determine what proportion of courses should be dedicated to general education. These proportions may vary by college but can be used as a baseline for further assessments to ensure students' needs are being met.
4. TCSG management should provide guidance to the technical colleges regarding how to balance the roles of increasing the workforce in the state and providing courses that will transfer to a four-year institution.

*Agency Response:* TCSG accepted all recommendations. With regard to the first and second recommendations, TCSG stated that its strategic plan includes the placement rate, which encompasses the continuing education outcome, as well as the retention rate. TCSG noted many colleges also use the same metrics for success. However, TCSG stated that “we are open to additions that make this component more explicit” and “willing to review [college plans] and ask for a more direct inclusion of measures when applicable.”

With regard to the third recommendation, TCSG stated that degree-level majors in occupational programs require general education courses; “however, we are a technical college system. While we provide services for which community colleges in many other states are responsible, it is expected that a majority of enrollment is within occupational programs.”

**Finding 7:** TCSG uses data to track college performance and inform strategic planning; however, improvements are needed to increase transparency and clarity.

TCSG collects data from its colleges to track several metrics used to inform strategic planning, assess college performance, and externally report outputs and outcomes. However, the methodologies used to create these metrics have limitations. As a result, outcomes reported—including retention, graduation, and placement—may not fully convey system or technical college performance.

Standards related to effective management require that organizations monitor the results of their operations to assess performance over time. To achieve this, TCSG analyzes student data obtained from the colleges to examine trends in enrollment, retention, and placement across time at the system and college level. Central office uses these reports to assess individual college performance and inform strategic goals, while colleges use them to assess program performance and determine future activities (e.g., retention efforts).



While this demonstrates a commitment to using data to assess performance and operations, publicly reporting more granular data could provide more meaningful information about variation among colleges as related to TCSG's primary mission of workforce development—for both state decision makers and potential students. Absent this, performance results can be skewed, and variations among the colleges may be missed.

### Retention Rate

Retention rate is a common postsecondary outcome measure that is listed as an outcome for various reporting entities, including the National Center for Education Statistics and the Integrated Postsecondary Education Data System (IPEDS). The outcome is generally defined as the percentage of beginning students who complete or are reenrolled in the institution after a defined time period, though reporting entities may define metric differently (e.g., population used, time period reviewed).

TCSG reports to the Office of Planning and Budget (OPB) a system retention rate that has increased from 64% to 71% between fiscal years 2015 and 2019. Individual college retention rates are reported on TCSG's website. To obtain this rate, TCSG counts beginning students as retained if—during two academic years—they received an award at the same technical college or any postsecondary institution; enrolled at the same or another technical college; or enrolled at another postsecondary institution.

This methodology increases the retention rate in two ways:

1. **Including enrollment and awards at other postsecondary institutions** – In academic year 2019, TCSG's system retention rate was increased by seven percentage points by including students who left the system for a four-year institution. Likewise, college rates increased by between 6 and 13 percentage points by including those who left the college to go elsewhere (most commonly to a four-year institution). While this may reflect the colleges' outcomes in relation to broader goals in overall postsecondary efforts, it does not isolate retention results related to their primary mission of getting their students to an award related to workforce development.
2. **Calculating enrollment during the period in which a student could obtain an award rather than the next term** – In academic year 2019, TCSG reported approximately 23% as enrolled in the same technical colleges during the period reviewed (during which they could have also gotten an award). As such, it does not identify whether the student remained despite not obtaining an award (which would be assessed in the subsequent term or academic year). Our analysis (discussed in the finding on page 18) identified approximately 6% of students who did not obtain an award by the end of academic year 2019 as enrolled during the following semester.

To further assess retention, TCSG could also calculate on a term-by-term basis whether a student obtained an award or remained at the college. Some technical colleges and technical college systems in other states reported using this metric.

### Graduation Rate

Graduation rate is also a commonly used postsecondary metric and is generally defined as the percentage of students who complete a program within a defined time period—typically 150% of the expected time of completion. As discussed in the

finding on page 18, students who obtain an award from TCSG earn wages that are 20% higher than those who left without an award and were also employed.

TCSG reports to OPB a “two-year graduation rate of students...enrolled in an award program with 12 hours and at least one vocational course” that has ranged from approximately 66% to 75% between fiscal years 2015 and 2019. While this is a helpful metric in identifying students who completed a declared occupational program, it also removes from the reviewed population a portion of beginning students who attend technical colleges but never earn any credits or only took general education courses (who are less likely to obtain an award from TCSG). We estimate this could equate to approximately 16% of a beginning population.

TCSG also reports to IPEDS a graduation rate that determines the percentage of first-time, full-time students who graduate within 150% of normal time to completion. However, TCSG staff stated they do not include this as a performance measure because it does not account for part-time students. As a result, the OPB metric described above is currently the only information available for decision makers to use to determine what percentage of students obtain an award. Three of the four states we spoke with publish this metric—as defined by IPEDS—on their websites or in strategic plans. However, TCSG could also develop its own methodology that sufficiently accounts for its student population (e.g., part-time, award type) and track that rate over time.

### Placement Rate

Placement rate is a common calculation among state technical college systems. TCSG uses an overall placement rate and in-field placement rates to demonstrate its success in achieving its mission of workforce development, while colleges use the rates to evaluate program success.

To determine placement rates, technical college staff categorize students’ post-award outcomes across multiple categories—including employment in the same, related, or unrelated field and whether the awardee also or only continued their education (either at the same technical college or another institution). Other categories include unavailable for employment<sup>25</sup>, military, unemployed, and status unknown.

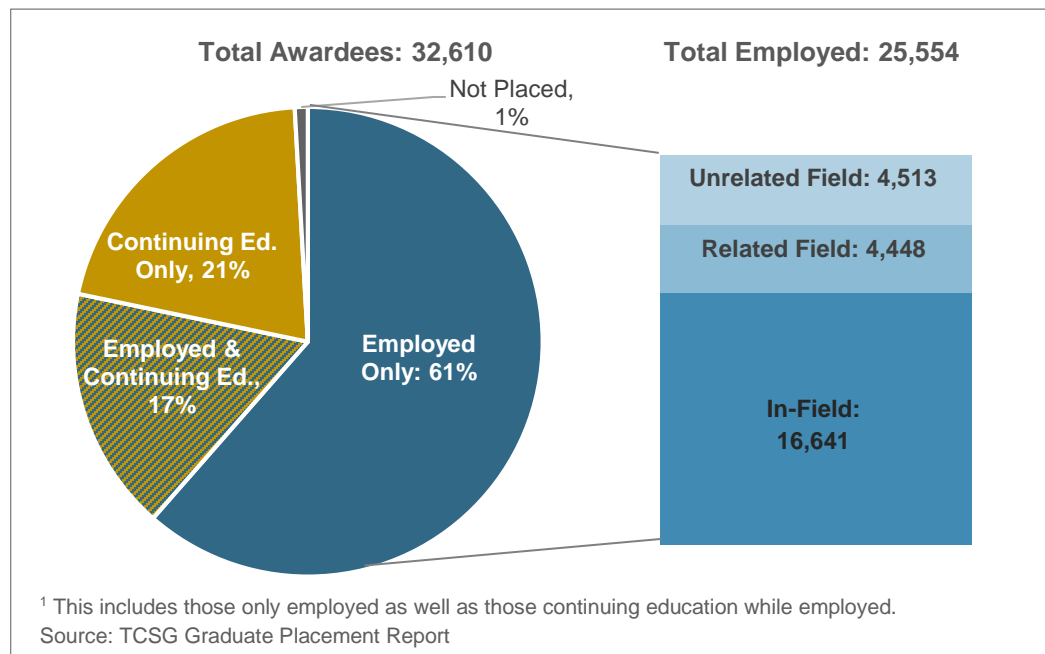
As shown in Exhibit 18, approximately 78% (25,554) of the 32,600<sup>26</sup> students who obtained an award in academic year 2018 were categorized as employed, which is directly related to TCSG’s mission of workforce development. Nearly 21,000 were employed in the same or a related field as their award, which equates to 82% of those employed and 64% of the total population. Of those employed, 21% (17% of all awardees) also continued postsecondary education. Approximately 21% of all awardees (6,800) exclusively continued their education.

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<sup>25</sup> This is primarily used for incarcerated individuals who are educated through Central Georgia’s partnership with the Georgia Department of Corrections, but it may also include awardees who are now deceased or have medical conditions that preclude working.

<sup>26</sup> This removes approximately 1,000 awardees categorized as “not available for employment” and nearly 250 awardees with “Status Unknown.”

**Exhibit 18**  
**Majority of TCSG Awardees are Employed Following Award (AY 2018)**



TCSG's reported placement rate of 99% combines employment (78%) and continuing education only (21%) into a single result. While this number reflects what may be seen as successfully assisting graduates in their own goals, it masks variances among the colleges when examining the extent to which they are moving their graduates toward employment. All colleges' placement rates are nearly 100%; however, the percentage of graduates exclusively continuing education ranges from 1% to 43%.

Additionally, TCSG's calculation of in-field placement is reported at a higher rate of 89% because the calculation removes particular groups from the population under review. According to TCSG staff, those employed in an unrelated field while continuing education, as well as those only continuing education, are removed from the population because they have not yet "graduated" from TCSG. However, depending on whether the rate is intended to reflect a percentage of employed individuals or percentage of all awardees, the removal of this population can overstate system and college performance depending on the population assessed. As described above, approximately 82% of employed individuals—but 64% of awardees—were in the same or a related field.

## RECOMMENDATIONS

1. TCSG's central office management should further refine performance measures to provide more nuanced information on system and college outcomes to inform strategic planning and support budget requests.
2. TCSG should separate its employment and continuing education outcomes rather than reporting a single placement rate.
3. TCSG should calculate its in-field placement rate based on all employed populations, including those who are employed in an unrelated field while continuing education.

4. In reporting retention rates, TCSG should separate out the percentage who obtain an award, the percentage who are still enrolled at TCSG, and the percentage who transferred to other institutions.
5. TCSG should consider monitoring the percentage of students who obtain an award. This could be done using the IPEDS definition or another definition as determined by central office based on its student population.

*Agency Response:* TCSG accepted all recommendations, with the exception of the third recommendation as discussed below. In its response to the report, TCSG stated its commitment to utilizing data to measure success throughout the system. Regarding the second recommendation, TCSG stated it typically combines employment and continued education to “succinctly convey these metrics for success.” TCSG noted that while it feels as though transparency is provided with the inclusion of definitions and information on the calculations, it will consider separating the two components of the placement rate.

Regarding the third recommendation, TCSG indicated concerns with changing the populations included in the calculation because it would “provide a less accurate portrayal of the intended information”. TCSG noted in its response that the “in-field placement rate does not include individuals who are not in the workforce. It does not include students who are continuing their education either at TCSG or at another institution because these individuals are not yet likely working in the job for which they are training.”

*Auditor’s Response:* The in-field placement rate calculation currently includes individuals who are continuing their education (within or outside TCSG) and employed in-field or in a related field; it does not, however, include individuals who are continuing their education (within or outside TCSG) and are employed in an unrelated field. As a result, the rate is inflated because it does not count a segment of the employed population. While the inflation is minor at the system level, it could be higher at the individual college level. Including all employed individuals would provide a more accurate indicator of in-field employment at a given time. If TCSG is interested in determining whether individuals with a TCC continue at TCSG and obtain additional credentials prior to obtaining employment in-field, they could track this separately.

With regard to the fourth recommendation, TCSG “acknowledges that its retention rate is not the typical retention rate used in a four-year setting. TCSG will consider renaming the rate a ‘persistence rate’ that is more common among two-year institutions.”

**Finding 8: Occupational programs with high technical education expenditures typically generate awards and gainful employment, though growth in these programs may be challenging without additional funding.**

Approximately half of technical colleges' programmatic expenditures is dedicated toward 21 occupational groups, most of which have demonstrated success in retaining students long enough to obtain an award and moving graduates toward gainful employment. However, the most successful programs are also often the most expensive to offer, and growth may be challenging without additional funding.

TCSG's estimated program expenses (which are funded through state appropriations and local revenue from tuition and fees) are divided between two types: general education, which comprises an estimated 26% of total program costs, and the 77 occupational program groups (e.g., Practical Nursing, Cosmetology), which comprise approximately 71%. Most occupational program expenditures (75%) are concentrated among 21 programs, which are offered at most colleges (half are offered at all colleges) and as such are among the top programs for enrollment and awards.

According to TCSG central office and technical college staff, technical colleges are responsible for determining what programs they offer. These decisions—including whether to add or terminate programs—are based on enrollment as well as retention and placement rates (along with input from local industry). As discussed in the finding on page 12, graduate wages could also be helpful in assessing programs.

As shown in [Exhibit 19](#), the top 21 programs are generally successful in moving students to an award and then employment, though some warrant additional examination (see [Appendix G](#) for results for all programs). Of the 21 programs reviewed, 15 have award rates at or above the system average of 36%, and most also yield an in-field employment rate higher than the system rate of 64%. Most programs' graduates also earned above the statewide household median income.<sup>27</sup> Notable programs are described below.

- **Successful HOPE Career Grant Programs** – Several notably successful program groups are predominantly made up of majors eligible for the HOPE Career Grant. For example, the Commercial Truck Driving program, which is eligible for the grant, has one of the highest award rates and awardee in-field placement rates, and graduates earn an estimated median wage of approximately \$33,900—20% higher than the statewide median. Likewise, the Air Conditioning program has relatively high award and placement rates, and awardees' estimated median wage (approximately \$35,000) is 24% higher than the statewide median.
- **Other Successful Programs** – Other successful programs are not eligible for the HOPE Career Grant, though their award and employment rates suggest there is a need for these awards in the state. In particular, Paramedic program enrollees are more likely to obtain an award and find in-field employment,

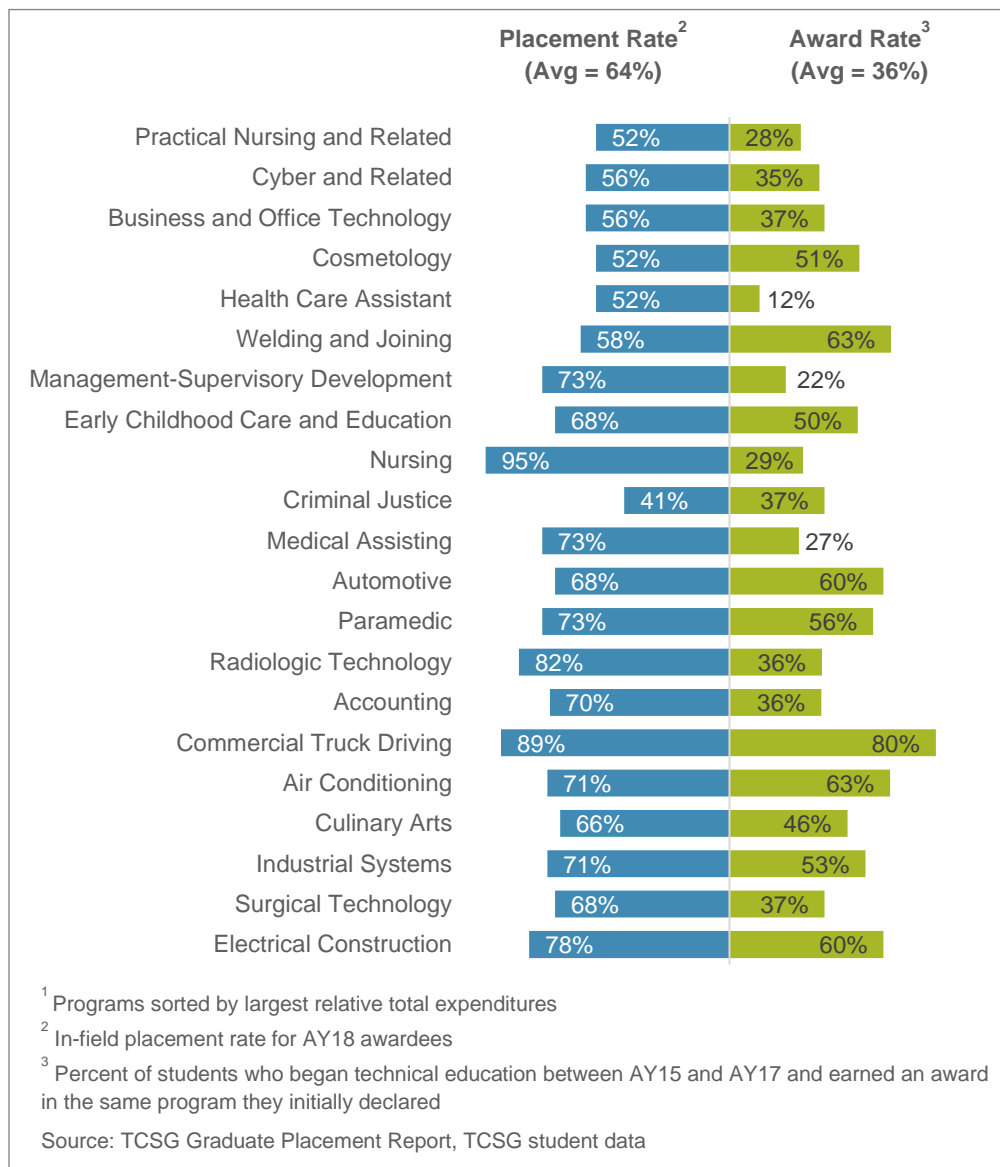
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<sup>27</sup> Wages were identified for graduates who were included Department of Labor data for three or four quarters and making above the minimum wage in the year after their award. As discussed in the finding on page 12, this does not include all individuals employed in Georgia.

with awardee median wages approximately 33% higher than the statewide median.

- **Programs Warranting Additional Review** – Some programs with high programmatic expenditures do not appear to produce higher outcomes and should be reviewed further. For example, the Health Care Assistant program has one of the lowest award rates and a lower than average in-field placement rate. Likewise, the Criminal Justice program, while it has an average award rate, has one of the lowest percentages of in-field placement. Identifying low performing programs may allow funds to be redistributed to other, more successful programs.

**Exhibit 19**  
**Most High Expenditure Programs Have Higher than Average Award and Placement Rates<sup>1</sup>**



Additionally, some programs with relatively low overall expenditures have higher than average award and placement rates and result in median wages higher than the statewide median. For example, Diesel Equipment, which contains several HOPE Career Grant eligible majors, has a 68% award rate and 78% in-field placement rate with median wages approximately 21% higher than the statewide median. However, this program is only offered at 13 colleges. Likewise, the Machine Tool program (offered at 16 colleges) has a 46% award rate and 81% in-field placement with median wages approximately 47% higher than the statewide median.

According to technical college staff, their ability to initiate or grow successful programs is hindered because often these are also the most expensive programs to operate. Estimated direct costs for faculty and equipment often exceed the tuition charges, even with the recent increase from \$89 to \$100, typically for reasons described below.

- **Faculty Costs** – Unlike general education courses, occupational courses generally have fewer students in a class, and some programs' accreditation requirements necessitate even smaller faculty to student ratios. College staff indicated that it can be difficult to attract the faculty needed to expand programs, particularly in programs where pay is higher for practitioners.
- **Equipment Costs** – Occupational programs provide hands-on, practical learning, which often requires expensive equipment and supplies. For example, the Commercial Truck Driving program is one of the costliest programs per credit hour, primarily due to the trucks and gas required to train students.

According to TCSG's estimates of program cost, tuition and fees generated for a program are often insufficient to cover the direct costs of some programs, and when indirect costs such as support staff salaries are included, no program is self-sustaining. As discussed on page 10, the state appropriation is the other major funding source for the colleges; however, as noted in a recent zero-based budget report, the funding formula is "sensitive to extreme fluctuations in credit hour enrollment."

Based on interviews with other states and technical colleges, there are actions TCSG or the General Assembly may take to increase revenue to successful technical education programs, described below.

- **Evaluate tuition annually** – TCSG increased its tuition for the first time in five years, unlike other states that evaluate (and often increase) their tuition annually. For example, Wisconsin (which also charges separate tuitions for collegiate transfer vs. vocational programs<sup>28</sup>) has increased vocational tuition annually for the past 10 years. From academic year 2015 to 2019, Wisconsin's tuition increased by 6.6% incrementally (between 1.5% and 2.0% each year), compared to TCSG's one-time 12.5% increase.
- **Target state funding for high-need programs** – Wisconsin allocates a portion of state funding for categorical grants distributed to local boards for particular program initiatives. For example, one grant provides funding for

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<sup>28</sup> Wisconsin's state law requires tuition to cover 31% of the operational costs for transfer programs and 14% of vocational programs costs. In academic year 2019, vocational tuition was \$134.20 per credit, while tuition for collegiate transfer was \$181.50.



student support services on the stipulation that 25% of costs are covered by the college. In another targeted use of funds, colleges with commercial truck driving programs received grants out of an \$8 surcharge on commercial vehicle violations.

- **Partner with local employers** – Some colleges we spoke with have developed industry partnerships that have resulted in donated equipment or increased funding. For example, South Georgia has several partnerships with local employers (e.g., John Deere, Delta) that have donated equipment worth thousands of dollars.

## RECOMMENDATIONS

1. TCSG's central office and the technical colleges should continue to assess the success of programs to drive decisions regarding what programs warrant the highest levels of investment. In this assessment, unsuccessful programs should be evaluated to determine whether they should continue at all or on certain campuses.
2. TCSG's state board should evaluate its tuition revenue each year to determine whether increases are warranted.
3. The General Assembly should consider reallocating state funding to programs that have been deemed strategically important to the state's economic growth and are successfully achieving this goal.
4. Technical colleges should share strategies for increasing funding sources for programming.

***Agency Response:** TCSG agreed with all recommendations, stating that its board will continue to approve program and course additions and removals and analyze where future adjustments will be made. TCSG also noted it established a policy at the end of calendar 2019 to evaluate its tuition rate annually, though "there are implications to consider beyond TCSG, such as impacts on Lottery-funded programs." TCSG stated best practices and challenges are shared at the bi-monthly meetings for technical college presidents, and that colleges' relationships with industry partners will continue to be explored and emphasized. Finally, TCSG stated it works with General Assembly members throughout the budget process and will be prepared to discuss any considerations regarding state funding to programs.*

**Finding 9: The majority of state operations funding for technical education is spent on the most heavily utilized locations.**

The current number and distribution of campuses and learning centers help ensure that nearly all Georgians are within 30 miles of a technical college building that offers on-location courses. Campus locations with the largest number of course offerings also comprise the largest percentage of colleges' operating costs. As the type of course offerings shift to increasingly online courses, however, TCSG should continue to evaluate the efficiency of its campuses and learning centers.

TCSG central office staff have indicated a primary goal of technical education is to ensure that all Georgians are within 30 miles of a technical college. This is accomplished with both campuses (which employ administrative staff for services such as admissions and financial aid) and learning centers (which provide classrooms). During the time of our review, there were 106 technical education locations for the 22 colleges.

The state funds TCSG \$4.11 per square foot to operate owned and leased locations, which central office allocates directly to the colleges. Campuses also require a certain level of staffing, though information on these costs per location was not available in most colleges' human resources reports. However, one college's records show approximately 20 staff (e.g., financial aid specialist, admissions coordinator) assigned to its second campus for an estimated \$600,000 in personal services expenses.

At the time of our review, state funding for 95 technical education locations<sup>29</sup> totaled approximately \$45.5 million, nearly 80% of which was spent on 41 locations that each offered at least 200 on-campus courses during academic year 2019 (see Exhibit 20). These included the main campuses for all but one college (Oconee), as well as 17 satellite campuses and three learning centers.

**Exhibit 20**

**The Majority of State Operational Funding for Technical Education is for Heavily Utilized Locations (AY 2019)**

Number of Courses	Number of Locations	State Funding (millions)	% of Total State Funding
No AY19 Courses <sup>1</sup>	12	\$1.7	4%
Fewer than 50	14	\$1.1	2%
50 to 200	28	\$7.2	16%
200 to 400	17	\$8.2	18%
400 to 700	14	\$12.6	28%
700 to 1,050	10	\$14.7	32%
<b>Total</b>	<b>95</b>	<b>\$45.5</b>	
<sup>1</sup> Includes commercial truck driving ranges, administrative sites, and locations with courses reported to other campuses (which may also be used for adult education and economic development programs).			
Source: Agency documents, TCSG student data			

<sup>29</sup> The state does not fund the remaining 11 locations; rather, the technical college may have arrangements with local governments or private organizations.

Sites that did not have enrollment included commercial truck driving ranges, administrative sites, and locations with courses reported to other campuses (which may also be used for adult education and economic development programs). These locations cost the state approximately \$1.7 million, or approximately 4% of total operating costs. The 14 locations that offered fewer than 50 courses during academic year 2019 cost approximately \$1.1 million, or 2% of total state operations funding.

Given the small proportion of state operations funding and the increased accessibility they provide, there is little evidence that particular locations need to close at this time. With the current number and location of active campuses, nearly all Georgians<sup>30</sup> live within 30 miles of a technical education location, and nearly 70% are within 10 miles. For 13 colleges, at least half of their service delivery area was within 10 miles, and increased accessibility was often due to the placement of locations with relatively few course offerings—particularly in rural areas.

However, shifting trends toward more online courses may require further evaluation of accessibility goals and campus locations. In its strategic plan, TCSG indicated it plans to increase the number of fully online and hybrid (a combination of online and in-person) courses by 5% by academic year 2024. Additionally, during this review, TCSG was required to modify its instruction to predominantly online offerings due to requirements related to the coronavirus outbreak. Such innovation may yield an even greater online presence in future terms.

## RECOMMENDATIONS

1. TCSG and technical colleges should continuously monitor the utilization of campus locations and evaluate the need for sites that offer relatively fewer courses.
2. TCSG and technical colleges should evaluate the efficiency and effectiveness of online practices in place during the coronavirus outbreak to determine whether any should continue as standard practice.

***Agency Response:** TCSG agreed with both recommendations, stating it “will continue to monitor and strive for efficiencies.” TCSG stated that “there is opportunity in online offerings and look to grow in this aspect at our colleges,” noting that the current pandemic has required enhancements to its online platform and distance delivery. However, TCSG cited limitations to teaching courses online, including the nature of technical education, as well as student access to equipment and internet.*

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<sup>30</sup> We limited our review to Georgians between the ages of 18 and 44 years, which comprise approximately 93% of TCSG’s traditional enrollment population.

**Finding 10: TCSG and technical colleges should monitor faculty turnover at the program level to identify areas where additional retention efforts may be needed.**

TCSG staff indicate faculty recruitment and retention are a challenge, particularly in certain programs. We found system and college turnover rates for full-time faculty are below the state average; however, an in-depth review at the program level is necessary to determine areas where additional efforts may be needed.

According to TCSG's accrediting body, "a critical mass of full-time qualified faculty" is essential to fulfill basic functions such as teaching, advising, and designing curriculum. Additionally, while full-time faculty can be "supplemented and enhanced by the judicious assignment" of part-time instructors, a "sufficient number" help maintain program quality and integrity. TCSG highlighted the importance of employee retention to the mission in its strategic plan, and college staff stated faculty retention is important in building relationships with students and local industry.

Like those in other states we reviewed, TCSG central office and college staff frequently stated faculty recruitment and turnover is an issue within the system, especially for particular programs. Reasons mentioned include:

- Technical colleges must recruit from a field of practitioners who often earn a higher income in the industry rather than teaching. For example, TCSG Cyber faculty earn a median salary of approximately \$54,900, while industry counterparts earn approximately \$83,300 (as reported by the Bureau of Labor Statistics). Additionally, depending on the field from which they are recruited, Nursing faculty's median wages of \$58,400 may be significantly less than in the private sector.<sup>31</sup> Cyber and Nursing faculty also earn less than other postsecondary instructors in the state, who earn \$73,700 and \$67,400, respectively.
- TCSG faculty do not have the same employment arrangements as those in the University System of Georgia or the local school systems. For example, unlike USG instructors and local schoolteachers, most technical college faculty operate on a 12-month work schedule and do not have summers off.
- In addition to instructional duties, faculty have administrative responsibilities (student recruitment, employer engagement), which increases their workload. Additionally, the increasing dual enrollment population has required instructors to take on more responsibility without additional pay, such as driving off-site to teach courses at high schools.

According to central office staff, challenges with calculating turnover rates relate to the prevalence of part-time faculty, who comprise approximately 48% to 80% of technical colleges' instructors. These faculty may be "terminated" and rehired based on need; while this is reasonable, there is not a standardized method for colleges to follow when recording such actions. As a result, employment records would not be a reliable source of information on faculty departures.

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<sup>31</sup> According to Bureau of Labor Statistics, Georgia's nurse practitioners earn a median salary of \$104,400, registered nurses earn \$67,900, and licensed practical or vocational nurses earn \$41,900.

Due to the above data limitations, it is not possible to determine turnover rates for all instructors; however, we did review rates for full-time faculty. In academic year 2019, rates ranged from 5% to 21% across colleges, with a system average of 11%. Rates for all but one college were below the fiscal year 2019 turnover rate for state government employees (21%). However, this information should be reviewed at the program level, where rates may be higher. For example, while Savannah's full-time faculty turnover rate was 19%, three of the six full-time faculty in the Practical Nursing program left during the year.

It was not possible to calculate program-level turnover rates for all colleges because instructors are not uniformly categorized across the colleges. For example, faculty might be tagged as "Radiology Instructor" at Atlanta but generally identified under "Instruction" at Augusta. If these program categories were standardized, central office could identify which programs may have higher rates across the colleges. This would help in targeting initiatives to improve retention—particularly for programs that have been proven successful and/or have been identified as strategically important to the state's economic development.

## RECOMMENDATIONS

1. Central office and colleges should calculate faculty turnover at the program level. This, in conjunction with system and college rates, will help evaluate overall effectiveness in faculty retention.
2. Central office should work to standardize college data systems, which will assist in monitoring faculty retention and salaries. This includes how part-time faculty are tracked, as well as program categories.

*Agency Response:* TCSG agreed with both recommendations, stating its Human Resources department is making efforts to obtain information to calculate turnover at the program level. TCSG stated that "given the scope of the undertaking, including nuanced information between colleges, as well as distinctions between part-time adjunct instructors, full-time staff, and faculty, the task is labor-intensive and requires a devotion of resources. However, we are in agreement that the information would be beneficial."

## Appendix A: Table of Recommendations

### **TCSG graduates who obtain full employment after their last award earn wages slightly higher than the statewide median. (p.12)**

1. TCSG should analyze awardees' wages and use the information to promote programs, determine program priorities, and provide information to prospective students. Given the likely prominence of self-employment or contractor work within certain programs, DOL data should be supplemented with standardized surveys to awardees.

### **Approximately half of TCSG's traditional students leave their college prior to obtaining an award. (p. 18)**

2. TCSG central office should continue its efforts to create a stackable credentialing plan so more students can leave with an award.
3. TCSG central office and technical colleges should monitor data obtained from the Student Navigator program and its Banner data system to determine why students leave. As solutions are identified, central office should ensure that colleges are sharing best practices.
4. Given the variation among colleges (2% to 27% utilization), TCSG central office should ensure technical colleges are utilizing the Student Navigator early referral program at similar rates.

### **Although TCSG and technical colleges have recruiting efforts in place, improvements could be implemented to bring in more traditional students. (p. 22)**

5. TCSG central office should improve the marketability of its website by making information such as tuition and fees easily accessible, as well as including materials that promote technical education.
6. TCSG central office should determine best practice elements that the colleges should include on their websites, which may include program outcomes such as wages, as well as application and financial aid deadlines.
7. TCSG central office should continue to pursue collaborations with other state agencies (as well as identify new ones), and technical colleges should continue to build relationships with local schools and agencies to increase enrollments.
8. Technical colleges should use state longitudinal data to identify and actively target areas in Georgia where new high school graduates are not attending post-secondary institutions or are only employed.
9. Technical colleges should evaluate all recruitment efforts to determine the effectiveness of these measures and whether any efforts should be adjusted and refocused.

### **The dual enrollment population should be further evaluated for its impact on technical colleges' budget and operations, as well as outcomes (p. 26)**

10. Central office should collect information necessary to assess dual enrollment's impact on technical colleges' revenue and expenditures to determine whether dual enrollment pays for itself with the increased state allocation but decreased local revenue.
11. The General Assembly should consider assessing whether dual enrollment achieves its overall mission. Based on the purpose stated in legislation (HB 444) passed in 2020, this could include examining whether students ultimately graduate from a four-year institution and whether the time and cost to obtain a college degree is lower for former dual enrollment students compared to those who did not participate in the program.

### **Statewide agreements for general education appear to meet the needs of transfer students; however, significant gaps exist in coverage for occupational coursework. (p. 29)**

12. TCSG central office and technical colleges should regularly evaluate articulation agreements and make necessary adjustments and make necessary adjustments based on student course and transfer data to facilitate seamless transitions to four-year institutions.

13. Central office should evaluate the need for further curriculum standardization to increase statewide transfer of occupational programs or courses that are prominent among its former students who subsequently attend four-year institutions.

**TCSG should determine how student transfers to a four-year institution should be included in strategic planning and performance monitoring. (p.34)**

14. In its strategic plan, TCSG should establish specific activities and metrics related to the stated goal of preparing students to continue education.
15. Technical colleges should determine what specific activities and metrics related to continuing education should be included in their strategic plans.
16. TCSG and the technical colleges should determine what proportion of courses should be dedicated to general education. These proportions may vary by college but can be used as a baseline for further assessments to ensure students' needs are being met.
17. TCSG management should provide guidance to the technical colleges regarding how to balance the roles of increasing the workforce in the state and providing courses that will transfer to a four-year institution.

**TCSG uses data to track college performance and inform strategic planning; however, improvements are needed to increase transparency and clarity. (p.36)**

18. TCSG's central office management should further refine performance measures to provide more nuanced information on system and college outcomes to inform strategic planning and support budget requests.
19. TCSG should separate its employment and continuing education outcomes rather than reporting a single placement rate.
20. TCSG should calculate its in-field placement rate based on all employed populations, including those who are employed in an unrelated field while continuing education.
21. In reporting retention rates, TCSG should separate out the percentage who obtain an award, the percentage who are still enrolled at TCSG, and the percentage who transferred to other institutions.
22. TCSG should consider monitoring the percentage of students who obtain an award. This could be done using the IPEDS definition or another definition as determined by central office based on its student population.

**Occupational programs with high technical education expenditures typically generate awards and gainful employment, though growth in these programs may be challenging without additional funding. (p. 41)**

23. TCSG's central office and the technical colleges should continue to assess the success of programs to drive decisions regarding what programs warrant the highest levels of investment. In this assessment, unsuccessful programs should be evaluated to determine whether they should continue at all or on certain campuses.
24. TCSG's state board should evaluate its tuition revenue each year to determine whether increases are warranted.
25. The General Assembly should consider reallocating state funding to programs that have been deemed strategically important to the state's economic growth and are successfully achieving this goal.
26. Technical colleges should share strategies for increasing funding sources for programming.

**The majority of state operations funding for technical education is spent on the most heavily utilized locations. (p. 45)**

27. TCSG and technical colleges should continuously monitor the utilization of campus locations and evaluate the need for sites that offer relatively fewer courses.
28. TCSG and technical colleges should evaluate the efficiency and effectiveness of online practices in place during the coronavirus outbreak to determine whether any should continue as standard practice.



**TCSG and technical colleges should monitor faculty turnover at the program level to identify areas where additional retention efforts may be needed. (p. 47)**

29. Central office and colleges should calculate faculty turnover at the program level. This, in conjunction with system and college rates, will help evaluate overall effectiveness in faculty retention.
30. Central office should work to standardize college data systems, which will assist in monitoring faculty retention and salaries. This includes how part-time faculty are tracked, as well as program categories.

## Appendix B: Objectives, Scope, and Methodology

### Objectives

This report examines the Technical College System of Georgia's (TCSG) Technical Education program. Specifically, our audit set out to determine the following:

1. Whether TCSG students obtain employment following graduation;
2. Whether students remain at TCSG long enough to obtain certifications, diplomas, or degrees;
3. Whether TCSG is effective at attracting students;
4. Whether the TCSG funding mechanism provides options for growth, to the extent that TCSG is successfully placing graduates; and
5. Whether TCSG is effective at retaining faculty.

### Scope

This audit generally covered activity related to technical education that occurred between academic years 2015 and 2019, with consideration of earlier or later periods when relevant.

We selected populations for review rather than sampling. As such, the results in the report represent those for the population analyzed and should not be extrapolated. Student populations were extracted from various cohorts to ensure a sufficient and representative population to obtain valid results for that particular analysis. For example, to determine award rates, we examined the outcomes of 71,800 students who enrolled at a technical college for the first time between academic years 2015 and 2017. To analyze awardees' employment outcomes, we expanded the population to anyone who obtained their last award (i.e., graduated) between the fall of academic year 2015 and the fall of academic year 2017. This provided a starting population of 55,400 rather than the 12,300 who began and obtained their most recent award during that time period. All populations used are described in the objectives below.

Information used in this report was obtained by reviewing relevant laws, interviewing TCSG central office and technical college staff, and conducting focus groups for TCSG technical college retention and human resources staff. We also conducted site visits and phone interviews of 11 technical colleges of varying sizes based on input from TCSG central office staff, as well as information such as enrollment, retention, placement, graduate wages, and funding. Finally, we interviewed technical college system staff in four other states (Kentucky, South Carolina, Tennessee, and Wisconsin) that were identified as having similar structures (centralized system office focused on technical education) as Georgia.

The following datasets were used to provide information for multiple objectives.

- **TCSG Banner Data System** – Each college operates a local Banner system, which tracks students throughout their admission, enrollment, participation, and graduation at that school. Information reviewed includes declared majors, course enrollment, hours attempted and earned, grade point average, student payments, and awards obtained. We obtained Banner data for academic years 2015 through 2020. We assessed the controls over data used for this

examination and determined that the data used were sufficiently reliable for our analyses.

- **Governor’s Office of Student Achievement (GOSA) GAAwards database** – GOSA collects information from various sources on anyone who has been in the pre-kindergarten, primary, secondary, or post-secondary education system. The database includes information on schools attended, as well as any subsequent employment (including wages) from the Georgia Department of Labor’s (DOL) unemployment insurance records. While we concluded that the information was sufficiently reliable for the purposes of our review, we did not independently verify the data.

To obtain information, the audit team identified populations for review and sent them to GOSA for a match to postsecondary and employment records. At the time of this review, GOSA had obtained DOL data through calendar year 2017, and postsecondary information was available through academic year 2019, which affected populations reviewed.

Government auditing standards require that we also report the scope of our work on internal control that is significant within the context of the audit objectives. We reviewed internal controls related to TCSG’s performance monitoring of outcomes such as placement and retention (objectives 1 & 2). Specific information related to the scope of our internal control work is described by objective in the methodology section below.

### Methodology

To determine the extent to which TCSG students obtain employment following graduation, we reviewed GOSA’s GAAwards longitudinal database for employment and postsecondary outcomes for former TCSG students. Due to the availability of DOL employment data, we reviewed employment and wages for those who obtained an award from TCSG between the fall of academic year 2015 and fall of academic year 2017. The analysis was limited to those who were employed by Georgia businesses that file for unemployment insurance; as such, it did not include those who were self-employed, in the military, employed outside the state, or working for small businesses.

We based our median wage analysis on the United States Census Bureau’s Longitudinal Employer-Household Dynamics program’s analysis of postsecondary employment outcomes. As such, we calculated the median wages of TCSG graduates who were employed for three or four quarters following their last award and making above the minimum wage (i.e., “fully employed”). We removed those who were also enrolled in a postsecondary institution to better isolate full-time employment (though wages calculated before removing this population did not vary significantly). The final population of 19,900 comprised approximately 36% of the 55,400 who graduated during the period reviewed. Median wages at the program level were reported if at least 40% of the population (above the system average) met the above criteria.

We also examined the extent to which awardees were employed prior to obtaining their award from TCSG (unlike the analysis described above, in which we were looking at those who obtained their last award, this analysis looked at all who obtained an award). For each term, we determined whether those who obtained an award were fully employed in the year prior to and after their award. For those who were not employed prior, full employment in the year following their award was

considered a new job. For those who were fully employed (which comprised approximately 32% of awardees in each term), we assessed annual wages prior to and following the award. Reported results represent the average of the terms reviewed, though term-by-term results did not vary significantly.

Finally, we reviewed TCSG's methodology for obtaining awardees' employment information and calculating its placement rate (overall and in-field), which it externally reports.

**To determine whether students remain at TCSG long enough to obtain certifications, diplomas, or degrees,** we interviewed central office and technical college staff (including administrators and those directly involved in retention efforts) about the prevalence, reasons, and efforts to curb students' departure prior to obtaining an award. We also reviewed TCSG's methodology for the retention rate it calculates and externally reports.

We reviewed TCSG's Banner data to determine the extent to which traditional students (i.e., not dual enrollment) who began at a technical college between academic years 2015 and 2017 obtained an award by academic year 2019. Those who had not obtained an award but were enrolled during the fall of academic year 2020 were considered still working toward an award; those not enrolled were considered a "leaver." We also reviewed TCSG award data determine what percentage of students identified as dual enrollment during academic years 2015 and 2018 obtained an award prior to their high school graduation.

We used GOSA's GAAwards data to identify whether students identified as "leavers" subsequently enrolled in another postsecondary institution or obtained employment. Wages for fully employed leavers (approximately half of the employed population) were compared to those calculated for those who obtained an award during the same time period. We also used GAAwards data to identify the extent to which dual enrollment students remained at the technical college or attended a four-year institution following their high school graduation.

During our review, we identified that a portion of traditional and dual enrollment students were attending four-year institutions after TCSG. To determine the sufficiency of TCSG's articulation agreements, we reviewed statewide and college-to-college agreements against courses taken and awards obtained. In examining the agreements related to degrees obtained (which comprise the majority of agreements), we compared agreements related to prominent technical colleges (Albany, Gwinnett, Chattahoochee, Central Georgia, and Georgia Piedmont) and prominent four-year institutions (Kennesaw State, Valdosta State, Clayton State, Columbus State, Mercer University, and Albany State) with awards obtained by transferring students.

**To determine whether TCSG is effective at attracting students,** we reviewed TCSG's enrollment reports from academic years 2006 to 2019 and interviewed central office and technical college staff. We also compared TCSG's system and technical college websites to those of other states to identify potential improvements.

**To obtain information on whether TCSG's funding mechanism provides options for growth,** we reviewed TCSG's state allocation and the allotments provided to the technical colleges, as well as local revenue generated from tuition and fees. During our review, TCSG increased its tuition, which altered fieldwork related to TCSG's

funding sources. We did, however, interview central office and technical college staff regarding the ability to manage current expenditures and grow programs. We also examined a central office report based on technical colleges' self-reported expenditures to identify programs that received the largest proportion of funding and then compared outcomes (our calculated award rate and TCSG's reported placement rate) to assess whether these programs were successful. Finally, we used TCSG's Banner data to determine the number of academic year 2019 courses provided by technical education locations that receive state funding (based on the state's Building, Land, and Lease Inventory of Property).

We calculated students' average cost of technical education by obtaining the tuition and fees charged to students from TCSG's Banner system. We reviewed the following populations: traditional students enrolled during the fall semester of 2019, students identified as dual enrollment during the fall semester of 2019, and those who obtained an award between 2015 and 2019. The tuition rate was adjusted to reflect the TCSG tuition increase from \$89 to \$100. Only fees charged by all colleges (i.e. mandatory) were included in the estimated cost of full-time status.

**To determine whether TCSG is effective at retaining faculty,** we reviewed technical colleges' Human Capital Management reports from the State Accounting Office—specifically Employee Detail Reports (which include service dates, job titles), payroll data, and Personnel Action Reports (which include terminations and hires). We identified part-time and full-time technical education instructors (which include program coordinators and chairs) during academic year 2019 based on job code and department descriptions.

We based our turnover analysis on the United States Bureau of Labor Statistics definition: total annual separations from Personnel Action Reports divided by average monthly employment obtained from Employee Detail Reports. Our analysis was limited to full-time instructors (who comprise approximately 44% of instructors), because part-time instructors' terminations may not be recorded in Personnel Action Reports if they are expected to return in another academic year.

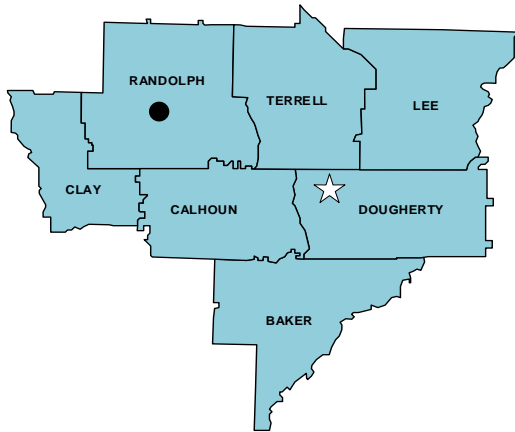
We used payroll data to examine median wages for full-time faculty employed during academic year 2019. We calculated median wages for instructors employed for the full year in two programs (Nursing and Cyber) identified as strategically important to the state's economic growth but, according to TCSG, are challenges for faculty recruitment and retention. While some colleges' payroll data does not categorize instructors at the program level (or some instructors were not employed the full year), the majority of colleges were represented in our analysis. Technical colleges' median instructor wages were compared to those in comparable industries in Georgia, as reported by the Bureau of Labor Statistics.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

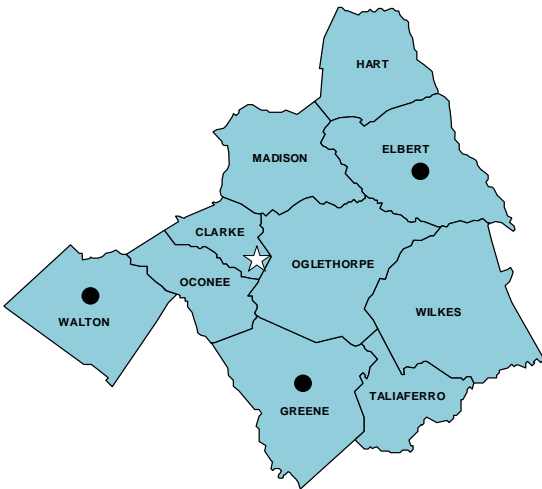
## Appendix C: HOPE Career Grant Programs

Program Groups	Program Examples	Specific Programs	Colleges Offered	AY19 Graduates
Automotive Technology	Automotive Fundamentals, Automotive Technology	16	22	1,317
Aviation Technology	Aircraft Structural Technology, Avionics Bench Technician	17	7	317
Certified Engineer Assistant	Computer Engineering Technology, Network Specialist	9	11	113
Commercial Truck Driving	Commercial Truck Driving, Commercial Straight Truck & Passenger Driving	3	19	1,657
Computer Programming	Advanced Web Site Designer, C# Programmer, C++ Programmer	34	21	626
Computer Technology	Cybersecurity, Database Administrator, Applied Business Technology	16	22	1,281
Construction Technology	Advanced Carpentry, Air Conditioning Repair Specialist, Basic Electrician	110	22	1,756
Diesel Equipment Technology	Agricultural Systems & Mechanics, Heavy Diesel Service Technician	4	17	248
Early Childhood Care and Education	Advanced Child Development Specialist, Early Childhood Care/Education	14	22	2,078
Electrical Lineman Technology	Electrical Line Worker, Electrical Utility Technician	3	8	158
Health Science	Health Care Assistant, Nurse Aide, Health Information Specialist	57	22	3,439
Industrial Maintenance	Industrial Electrician, Basic Electricity Technician, Manufacturing Maintenance Technician	61	21	996
Logistics/Transportation Technology	Logistics Management, Supply Chain Management, Warehouse & Distribution Technician	17	12	137
Movie Production Set Design	Camera Assistant, Video & Film Editor, Film Production-On Set Production Assistant II	21	11	409
Practical Nursing	Practical Nursing	3	20	797
Precision Manufacturing	Advanced General Machinist, Metals Technician, Mill Operator	20	18	285
Welding and Joining Technology	Advanced Pipe Welding, Gas Metal Arc Welding, Master Welder I	21	22	2,502
<b>Total</b>	--	<b>426</b>	<b>--</b>	<b>17,754</b>
Source: Agency Documents				

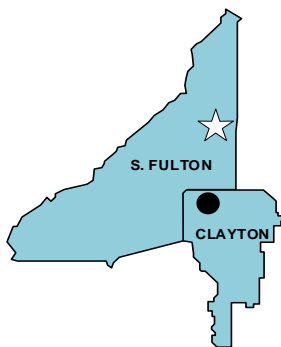
## Appendix D: Technical College Information



Albany Technical College	
Total Campuses	2
AY19 Enrollment	4,407
Traditional Enrollment	3,610
Dual Enrollment	797
% Economically Disadvantaged	67%
AY19 Graduates	1,332
AY19 Awards	2,143
FY20 State Funding	\$11,615,637
FY20 Other Funding	\$6,785,823



Athens Technical College	
Total Campuses	4
AY19 Enrollment	6,300
Traditional Enrollment	5,328
Dual Enrollment	972
% Economically Disadvantaged	48%
AY19 Graduates	1,440
AY19 Awards	2,334
FY20 State Funding	\$12,255,461
FY20 Other Funding	\$11,144,000



Atlanta Technical College	
Total Campuses	2
AY19 Enrollment	5,536
Traditional Enrollment	5,150
Dual Enrollment	386
% Economically Disadvantaged	69%
AY19 Graduates	1,871
AY19 Awards	2,722
FY20 State Funding	\$13,436,643
FY20 Other Funding	\$13,873,977



**Augusta Technical College**

Total Campuses	4
AY19 Enrollment	6,085
Traditional Enrollment	5,424
Dual Enrollment	661
% Economically Disadvantaged	59%
AY19 Graduates	1,475
AY19 Awards	2,361
FY20 State Funding	\$14,338,319
FY20 Other Funding	\$10,416,500

**Central Georgia Technical College**

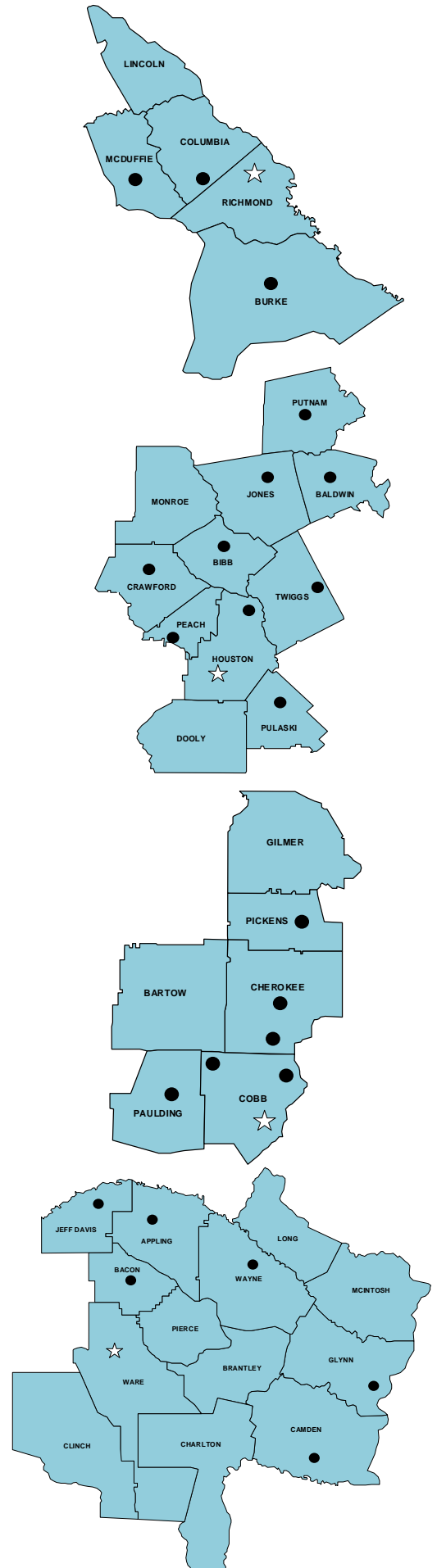
Total Campuses	10
AY19 Enrollment	12,048
Traditional Enrollment	9,638
Dual Enrollment	2,410
% Economically Disadvantaged	47%
AY19 Graduates	4,194
AY19 Awards	6,850
FY20 State Funding	\$24,651,196
FY20 Other Funding	\$20,250,091

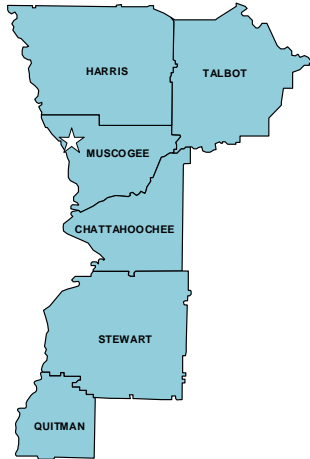
**Chattahoochee Technical College**

Total Campuses	7
AY19 Enrollment	14,943
Traditional Enrollment	12,369
Dual Enrollment	2,574
% Economically Disadvantaged	36%
AY19 Graduates	3,963
AY19 Awards	6,413
FY20 State Funding	\$24,257,357
FY20 Other Funding	\$28,073,110

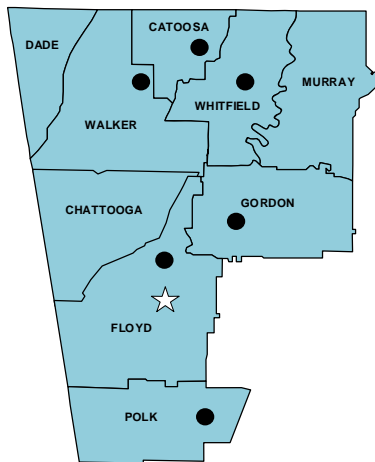
**Coastal Pines Technical College**

Total Campuses	7
AY19 Enrollment	5,352
Traditional Enrollment	2,561
Dual Enrollment	2,791
% Economically Disadvantaged	33%
AY19 Graduates	1,582
AY19 Awards	2,168
FY20 State Funding	\$14,286,955
FY20 Other Funding	\$9,329,761

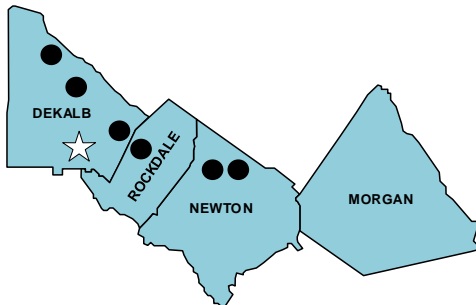




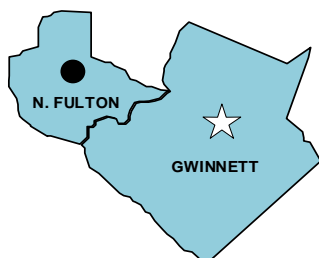
Columbus Technical College	
Total Campuses	1
AY19 Enrollment	4,769
Traditional Enrollment	4,031
Dual Enrollment	738
% Economically Disadvantaged	63%
AY19 Graduates	977
AY19 Awards	1,725
FY20 State Funding	\$11,450,445
FY20 Other Funding	\$7,467,085



Georgia Northwestern Technical College	
Total Campuses	7
AY19 Enrollment	7,730
Traditional Enrollment	5,219
Dual Enrollment	2,511
% Economically Disadvantaged	47%
AY19 Graduates	1,735
AY19 Awards	3,966
FY20 State Funding	\$18,136,011
FY20 Other Funding	\$15,079,679



Georgia Piedmont Technical College	
Total Campuses	7
AY19 Enrollment	4,829
Traditional Enrollment	3,488
Dual Enrollment	1,341
% Economically Disadvantaged	55%
AY19 Graduates	1,010
AY19 Awards	1,569
FY20 State Funding	\$10,388,724
FY20 Other Funding	\$10,576,296



Gwinnett Technical College	
Total Campuses	2
AY19 Enrollment	12,468
Traditional Enrollment	10,322
Dual Enrollment	2,146
% Economically Disadvantaged	45%
AY19 Graduates	2,180
AY19 Awards	4,008
FY20 State Funding	\$15,986,317
FY20 Other Funding	\$25,799,589

### Lanier Technical College

Total Campuses	5
AY19 Enrollment	5,846
Traditional Enrollment	4,553
Dual Enrollment	1,293
% Economically Disadvantaged	35%
AY19 Graduates	1,445
AY19 Awards	2,414
FY20 State Funding	\$11,877,331
FY20 Other Funding	\$13,236,139

### North Georgia Technical College

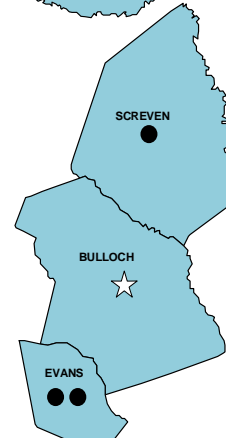
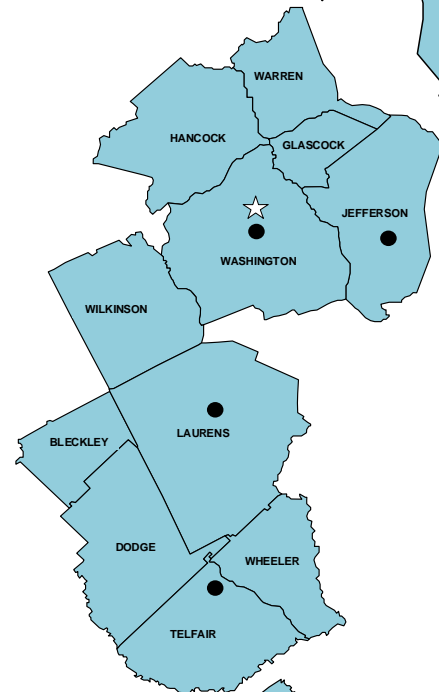
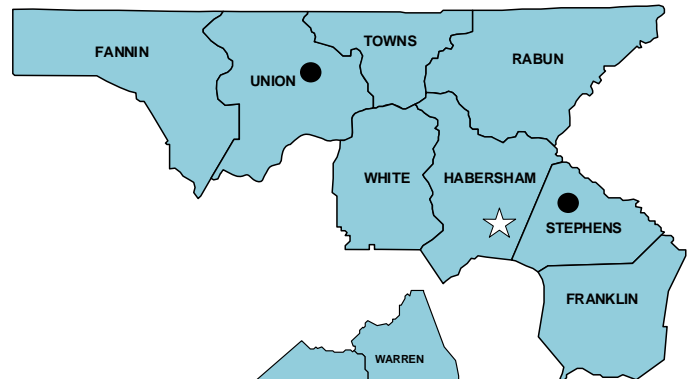
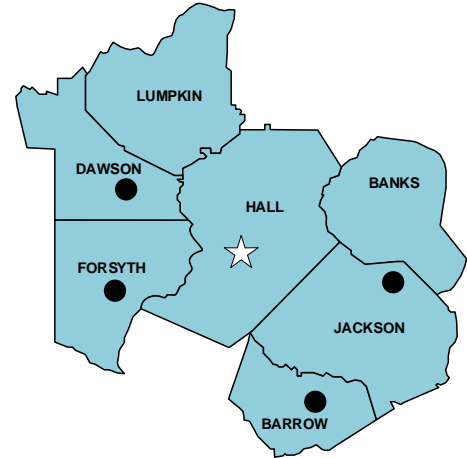
Total Campuses	3
AY19 Enrollment	3,606
Traditional Enrollment	2,824
Dual Enrollment	782
% Economically Disadvantaged	54%
AY19 Graduates	730
AY19 Awards	1,417
FY20 State Funding	\$10,547,704
FY20 Other Funding	\$8,486,504

### Oconee Fall Line Technical College

Total Campuses	5
AY19 Enrollment	2,262
Traditional Enrollment	1,873
Dual Enrollment	389
% Economically Disadvantaged	53%
AY19 Graduates	822
AY19 Awards	1,298
FY20 State Funding	\$8,813,604
FY20 Other Funding	\$3,868,700

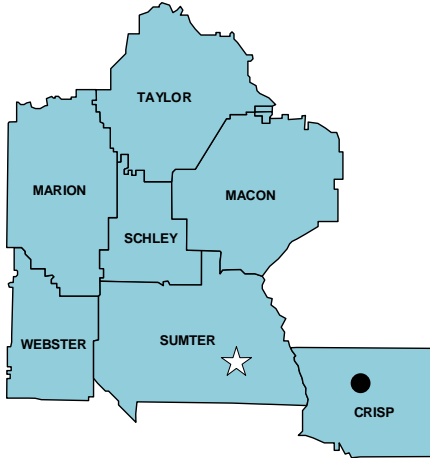
### Ogeechee Technical College

Total Campuses	4
AY19 Enrollment	2,919
Traditional Enrollment	2,486
Dual Enrollment	433
% Economically Disadvantaged	53%
AY19 Graduates	1,059
AY19 Awards	1,779
FY20 State Funding	\$8,726,105
FY20 Other Funding	\$6,701,900

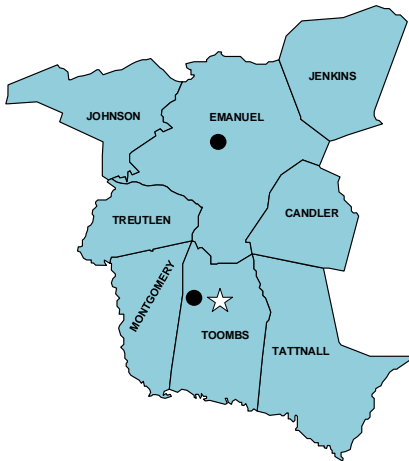




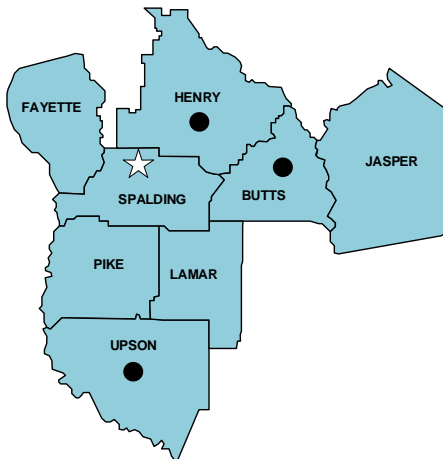
Savannah Technical College	
Total Campuses	5
AY19 Enrollment	5,774
Traditional Enrollment	5,036
Dual Enrollment	738
% Economically Disadvantaged	54%
AY19 Graduates	1,752
AY19 Awards	2,990
FY20 State Funding	\$13,603,820
FY20 Other Funding	\$12,425,659



South Georgia Technical College	
Total Campuses	2
AY19 Enrollment	3,083
Traditional Enrollment	2,302
Dual Enrollment	781
% Economically Disadvantaged	56%
AY19 Graduates	1,153
AY19 Awards	2,082
FY20 State Funding	\$9,118,855
FY20 Other Funding	\$7,678,739



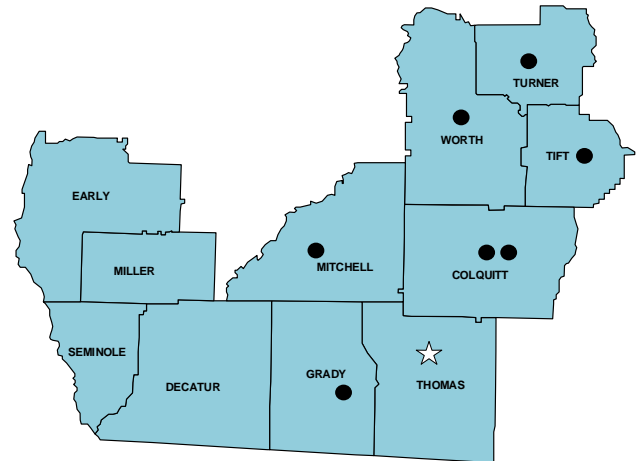
Southeastern Technical College	
Total Campuses	3
AY19 Enrollment	2,571
Traditional Enrollment	1,771
Dual Enrollment	800
% Economically Disadvantaged	49%
AY19 Graduates	603
AY19 Awards	876
FY20 State Funding	\$9,131,094
FY20 Other Funding	\$5,130,576



Southern Crescent Technical College	
Total Campuses	4
AY19 Enrollment	7,139
Traditional Enrollment	5,681
Dual Enrollment	1,458
% Economically Disadvantaged	56%
AY19 Graduates	2,622
AY19 Awards	4,245
FY20 State Funding	\$14,184,052
FY20 Other Funding	\$11,694,500

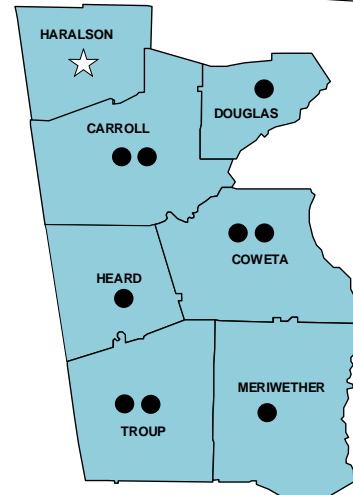
### Southern Regional Technical College

Total Campuses	8
AY19 Enrollment	6,153
Traditional Enrollment	4,093
Dual Enrollment	2,060
% Economically Disadvantaged	50%
AY19 Graduates	1,541
AY19 Awards	2,281
FY20 State Funding	\$19,223,727
FY20 Other Funding	\$16,279,338



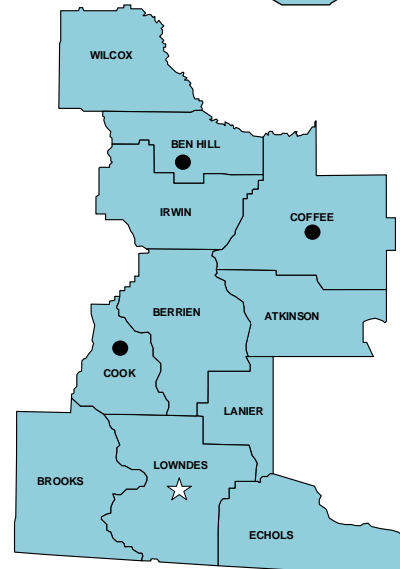
### West Georgia Technical College

Total Campuses	10
AY19 Enrollment	10,112
Traditional Enrollment	7,685
Dual Enrollment	2,427
% Economically Disadvantaged	46%
AY19 Graduates	2,126
AY19 Awards	3,004
FY20 State Funding	\$20,187,347
FY20 Other Funding	\$17,110,661



### Wiregrass Technical College

Total Campuses	4
AY19 Enrollment	6,908
Traditional Enrollment	3,753
Dual Enrollment	3,155
% Economically Disadvantaged	37%
AY19 Graduates	1,679
AY19 Awards	2,535
FY20 State Funding	\$13,772,223
FY20 Other Funding	\$13,163,806



## Appendix E: Wages by Program

	Award	Total Graduate Population <sup>1</sup>	% Fully Employed <sup>2</sup>	Median Wage <sup>3</sup>	Difference from State Median (\$28,256)
<b>Top Majors</b>					
Accounting	Degree	859	46%	\$30,377	8%
Advanced Emergency Medical Technician	TCC	509	63%	\$35,409	25%
Air Conditioning Technology	Diploma	736	54%	\$34,380	22%
Business Management	Degree	827	42%	\$34,114	21%
Business Technology	Degree	672	40%	\$27,111	-4%
Commercial Truck Driving	TCC	3,536	51%	\$33,908	20%
Medical Assisting	Diploma	1,085	55%	\$23,404	-17%
Networking Specialist	Degree	660	46%	\$33,005	17%
Nursing	Degree	869	69%	\$48,996	73%
Practical Nursing	Diploma	1,773	60%	\$30,830	9%
Radiologic Technology	Degree	569	67%	\$36,763	30%
Welding and Joining	Diploma	780	51%	\$32,115	14%
<b>HOPE Career Grant Eligible Programs<sup>4</sup></b>					
Aviation	---	427	43%	\$29,160	3%
Commercial Truck Driving	---	3,536	51%	\$33,908	20%
Diesel Equipment	---	397	53%	\$34,048	20%
Electrical Line Worker	---	355	75%	\$35,553	26%
Practical Nursing	---	1,773	60%	\$30,830	9%
Precision Manufacturing	---	445	48%	\$40,458	43%
<sup>1</sup> Those who obtained their final award from TCSG between the fall of academic year 2015 and the fall of academic year 2017. <sup>2</sup> Population was identified in DOL data as employed for three or four quarters and making above the minimum wage in the year following their award. We only report majors and programs in which at least 40% of the population was represented. <sup>3</sup> Adjusted to 2018 dollars <sup>4</sup> These programs may have multiple majors, either for a TCC and/or a diploma. Source: DOL Wage Data					

## Appendix F: Award Rates by Program

	Award Level	Beginner Population	Award Rate (any major)	Award Rate (same major)
<b>Top Majors<sup>1</sup></b>				
A.S. General Business	Degree	427	8%	4%
Accounting	Degree	843	41%	26%
Accounting	Diploma	626	44%	26%
Air Conditioning Technology	Diploma	1,263	64%	33%
Automotive Technology	Diploma	1,056	62%	26%
Business & Customer Service	TCC	2,140	74%	74%
Business Management	Degree	1,634	23%	13%
Business Management	Diploma	1,215	26%	15%
Business Technology	Degree	397	31%	18%
Business Technology	Diploma	1,249	37%	16%
Commercial Truck Driving	TCC	3,569	81%	80%
Computer Programming	Degree	732	30%	17%
Cosmetology	Diploma	2,667	51%	40%
Criminal Justice	Degree	614	35%	23%
Criminal Justice	Diploma	973	32%	16%
Culinary Arts	Diploma	468	48%	22%
Diesel Equipment	Diploma	488	73%	41%
Early Childhood Care/Education	Degree	783	44%	18%
Early Childhood Care/Education	Diploma	1,483	51%	17%
Electrical Systems Technology	Diploma	542	54%	33%
Emergency Medical Technician	TCC	595	69%	65%
EMS Professions	Diploma	919	52%	25%
Health Care Assistant	TCC	6,110	34%	12%
Health Care Science	TCC	10,854	29%	10%
Medical Assisting	Diploma	843	36%	21%
Networking Specialist	Degree	589	48%	28%
Networking Specialist	Diploma	742	41%	15%
Nursing	Degree	598	38%	27%
Phlebotomy Technician	TCC	382	43%	35%
Practical Nursing	Diploma	1,334	34%	22%
Radiologic Technology	Degree	556	40%	25%
Technical Specialist	TCC	2,094	22%	12%
Welding & Joining	Diploma	2,162	62%	26%
<b>Top Program Total</b>	---	<b>50,947</b>	<b>43%</b>	<b>26%</b>
<b>HOPE Career Grant</b>				
Automotive	---	1,419	63%	61%
Aviation	---	378	62%	59%
Certified Engineer Assistant	---	41	17%	7%
Commercial Truck Driving	---	3,570	81%	80%



	Award Level	Beginner Population	Award Rate (any major)	Award Rate (same major)
Computer Programming	---	468	28%	24%
Computer Technology	---	1,609	40%	36%
Construction	---	2,591	59%	56%
Diesel Equipment	---	677	66%	64%
Early Childhood Care/Education	---	1,875	56%	54%
Electrical Line Worker	---	371	89%	88%
Health Science	---	8,243	36%	19%
Industrial Maintenance	---	860	53%	50%
Logistics	---	71	27%	25%
Movie Production/Set Design	---	499	51%	48%
Practical Nursing	---	1,334	34%	25%
Precision Manufacturing	---	510	51%	48%
Welding & Joining	---	2,814	65%	62%
<b>HOPE Career Grant Total</b>	---	<b>14,403</b>	<b>53%</b>	<b>46%</b>
<sup>1</sup> Comprised 70% of majors initially selected by beginning technical education students				
<sup>2</sup> These programs may include multiple majors for a TCC and/or diploma.				
Source: TCSG student data				

## Appendix G: Award and Placement Rates by Program Group

Program Group <sup>1</sup>	Number of Colleges Offering	Award Rate <sup>2</sup> (any program)	Award Rate <sup>2</sup> (same program)	Employment Rate <sup>3</sup>	In-Field Employment Rate <sup>3</sup>
Practical Nursing & Related	22	37%	28%	67%	52%
Cyber & Related	22	38%	35%	72%	56%
Business & Office Technology	22	44%	37%	66%	56%
Cosmetology	22	53%	51%	75%	52%
Health Care Assistant	20	31%	12%	78%	52%
Welding & Joining Technology	22	66%	63%	71%	58%
Management-Supervisory Development	19	27%	22%	81%	73%
Early Childhood Care & Education	22	53%	50%	80%	68%
Nursing	15	39%	29%	97%	95%
Criminal Justice	22	40%	37%	63%	41%
Medical Assisting	22	39%	27%	87%	73%
Automotive Technology	22	63%	60%	82%	68%
Paramedic Technology	21	59%	56%	89%	73%
Radiologic Technology	18	47%	36%	89%	82%
Accounting	22	43%	36%	82%	70%
Commercial Truck Driving	18	81%	80%	95%	89%
Air Conditioning Technology	22	65%	63%	82%	71%
Culinary Arts	18	50%	46%	70%	66%
Industrial Systems Technology	20	55%	53%	80%	71%
Surgical Technology	16	46%	37%	91%	68%
Electrical Construction & Maintenance	19	63%	60%	85%	78%
Dental Hygiene	9	44%	34%	91%	80%
Media Production	11	46%	43%	68%	49%
Diesel Equipment Technology	13	70%	68%	81%	78%
Marketing Management	18	29%	22%	73%	64%
Dental Assisting	12	47%	39%	88%	53%
Aviation Maintenance Technology	6	61%	58%	77%	61%
AAS – Technical Studies	10	15%	7%	81%	79%
Pharmacy Technology	12	35%	25%	86%	74%
Machine Tool Technology	16	48%	46%	86%	81%
Medical Laboratory Technology	17	46%	38%	85%	67%
Environmental Horticulture	14	48%	44%	62%	52%
Auto Collision Repair	15	57%	55%	75%	66%
Electronics and Telecommunications	16	52%	47%	70%	59%
Respiratory Therapy Technology	9	58%	47%	96%	96%
Drafting	19	45%	41%	80%	64%
Physical Therapist Assistant	11	57%	55%	93%	82%
Electronics-Computer Engineering	9	29%	19%	80%	65%
Barbering	11	39%	37%	79%	52%
Biotechnology	4	37%	32%	83%	49%
Carpentry	10	62%	60%	61%	55%
Veterinary Technology	5	45%	34%	94%	86%

Program Group <sup>1</sup>	Number of Colleges Offering	Award Rate <sup>2</sup> (any program)	Award Rate <sup>2</sup> (same program)	Employment Rate <sup>3</sup>	In-Field Employment Rate <sup>3</sup>
Distribution-Materials Management	10	33%	25%	80%	74%
Paralegal Studies	10	37%	31%	85%	74%
Mechanical Engineering	9	27%	14%	91%	72%
Fire Science Technology	14	61%	54%	89%	77%
Hotel-Restaurant-Travel Management	8	50%	49%	77%	74%
Construction Management	9	50%	39%	89%	72%
Interiors	4	46%	43%	90%	80%
AAS-Business	4	10%	4%	81%	73%
Aircraft Structural Technology	3	64%	61%	77%	62%
Social Work Assistant	3	23%	18%	81%	60%
Forestry Technology	4	43%	40%	75%	69%
Cardiovascular Technology	5	46%	40%	100%	92%
Certified Economic Development	6	79%	79%	19%	19%
Banking & Finance	5	32%	4%	75%	75%
AAS-Health	1	13%	8%	70%	70%
Automated Manufacturing	1	73%	51%	98%	96%
Applied Business Technology	3	27%	15%	100%	100%
Funeral Service	1	41%	40%	96%	82%
Occupational Therapy Assistant	2	31%	27%	100%	88%
Plumbing	4	62%	55%	60%	56%
Instrumentation Technology	2	50%	36%	80%	69%
Industrial Technology	1	50%	25%	88%	75%
Environmental Engineering	2	35%	27%	73%	59%
Ophthalmic Dispensing	3	55%	48%	95%	88%
Nuclear Science	1	45%	40%	85%	46%
Civil Engineering	1	30%	30%	59%	47%
Railroad Operations	1	37%	33%	0%	0%
Masonry	1	67%	67%	44%	22%
Appliance Servicing	1	70%	60%	65%	59%
Golf Course Management	1	50%	19%	67%	33%
Chemical Operations	1	24%	19%	82%	36%
Electrocardiography	3	53%	47%	92%	62%
Mental Health Services	1	NA	NA	100%	100%
Building & Facilities Maintenance	5	48%	22%	67%	67%

<sup>1</sup> Sorted by relative total expenditures

<sup>2</sup> Percent of students who began at a technical college during academic years 2015-2017 and obtained an award by AY 2019

<sup>3</sup> AY 2018

Source: TCSG Graduate Placement Reports, TCSG student data

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The Performance Audit Division was established in 1971 to conduct in-depth reviews of state-funded programs. Our reviews determine if programs are meeting goals and objectives; measure program results and effectiveness; identify alternate methods to meet goals; evaluate efficiency of resource allocation; assess compliance with laws and regulations; and provide credible management information to decision makers. For more information, contact us at (404)656-2180 or visit our website at [www.audits.ga.gov](http://www.audits.ga.gov).