PATHWAYS TO POSTSECONDARY

Tennessee
Overview

In 2013, Governor Bill Haslam launched the Drive to 55 mission to increase the number of Tennesseans with a postsecondary degree or certificate to 55 percent by 2025. To support this work, the Tennessee Department of Education set forth ambitious but attainable goals in its strategic plan, Tennessee Succeeds. The plan calls upon the department to support the work of Tennessee's districts in increasing the average ACT composite score to 21 by 2020 and in equipping the majority of high school graduates from the class of 2020 to earn a postsecondary certificate, diploma, or degree. The Tennessee Department of Education is one of the first K–12 education agencies in the United States to develop a statewide goal for postsecondary attainment.

Ensuring that students are prepared to enroll in and complete postsecondary education is increasingly important. Data shows that our workforce is shifting: At least 55 percent of the jobs in Tennessee will require some postsecondary education by 2025. Statewide initiatives such as Tennessee Promise have addressed the financial burden of enrolling in postsecondary education. Tennessee's districts and schools are making progress to prepare our high school graduates for college and careers, but we have more work to do. Across the state, high school graduation and postsecondary enrollment rates are higher than ever before, yet over a third of high school graduates do not enroll in any postsecondary institution. Students in Tennessee who enter the workforce directly after graduating from high school earn an average salary of $10,880 during their first year of work, placing them far below the federal poverty line.

The Drive to 55: Pathways to Postsecondary report is intended to provide district and school leaders with data on their graduates' progress to and through postsecondary education. The majority of data presented here apply to the cohort of students who entered high school in fall 2012 and graduated with a regular diploma in the spring or summer of 2016. This report highlights percentages of 2016 high school graduates who go on to attend four-year universities, community college, and technical colleges. Please note that graduates who enlisted in the military are included in the classification of students who did not enroll in any postsecondary institution unless we were notified by the district of these students' enlistment. This state-level report describes the patterns of postsecondary enrollment across the state. The report includes a series of graphs accompanied by guiding questions, as well as strategies that leaders could consider in addressing needs identified in their school or district.

Equipped with this information, state, district, and school leaders can continue working to ensure our students are ready for and accessing postsecondary opportunities that will prepare them for bright futures.
89% of Tennessee students who entered 9th grade in 2012 graduated from high school in 2016. But only 63% of those graduates enrolled in a postsecondary institution in the summer or fall following graduation.

Economically disadvantaged students; black, Hispanic, and Native American students; students with disabilities; and English learners are significantly less likely to enroll in postsecondary than their peers.

Among 2016 graduates...

- 35% enrolled in a four-year university
- 25% enrolled in a community college
- 3% enrolled in a technical college

The average ACT composite score was 19.9, the state’s highest score to date.

40% of students attempted an early postsecondary opportunity, while about one-third earned postsecondary credit in high school.

47% of graduates concentrated in a career and technical education career cluster as their high school program of study.
The Tennessee Department of Education, the Tennessee Higher Education Commission, and the Governor's office are excited to provide data to support school directors, administrators, and counselors in understanding the postsecondary pathways chosen by students in your district as we move forward together on the "Drive to 55." This report contains five sections:

- Postsecondary Enrollment
- Postsecondary Enrollment by Subgroup
- Postsecondary Enrollment by Academic Achievement
- Postsecondary Enrollment by Coursework
- Program of Study Alignment and Postsecondary Enrollment

Each section contains a series of figures. After each set of figures, tables provide the number of graduates in the group of students listed, as well as the percent of students enrolling in different types of institutions. At the end of each section, a series of key takeaways is described. The report concludes with four appendices. Department resources and strategies aligned to each report section can be found in Appendix A; Appendix B contains a series of business rules that explain what data were available for this report and how certain data points are calculated; Appendix C describes the origin of our postsecondary data; and Appendix D compiles some useful resources and contacts. Each district has received the opportunity to review the data and a report with data specific to their graduates.

This report acts as the first attempt to share postsecondary enrollment data with districts. Future iterations will include persistence, postsecondary majors, and postsecondary completion.

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Section I: Postsecondary Enrollment

This section provides an overview of postsecondary enrollment trends in Tennessee, including enrollment over time and the most common institutions for enrollment. Students are identified as having enrolled in a postsecondary institution if they do so in the summer or fall after high school graduation. Percentages are calculated to display trends in postsecondary enrollment at four-year universities, community colleges, and technical colleges (TCATs). Please note that, due to data limitations, graduates who enlist in the military are included in the classification of students who do not attend any postsecondary institution, though we acknowledge the strength of the military pathway. In the data review process, districts were given the option to identify students who enlisted in the military and district reports reflect this change.

Postsecondary Enrollment by High School Graduation Year

<table>
<thead>
<tr>
<th>Grad Year</th>
<th>Name</th>
<th>Grads (N)</th>
<th>Four-year Univ.</th>
<th>Comm. College</th>
<th>TCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Tennessee</td>
<td>60,615</td>
<td>36%</td>
<td>20%</td>
<td>2%</td>
</tr>
<tr>
<td>2015</td>
<td>Tennessee</td>
<td>61,442</td>
<td>33%</td>
<td>28%</td>
<td>3%</td>
</tr>
<tr>
<td>2016</td>
<td>Tennessee</td>
<td>63,194</td>
<td>35%</td>
<td>25%</td>
<td>3%</td>
</tr>
</tbody>
</table>
Most Common Postsecondary Institutions for 2016 Enrollment

The following table shows the most common postsecondary institutions attended by 2016 high school graduates. Each institution displayed enrolled at least 500 graduates from the class of 2016.

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Institution Name</th>
<th>Enrollees</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four-year University</td>
<td>University of Tennessee, Knoxville</td>
<td>3,278</td>
<td>5.2%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>Middle Tennessee State University</td>
<td>2,189</td>
<td>3.5%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>University of Memphis</td>
<td>1,745</td>
<td>2.8%</td>
</tr>
<tr>
<td>Community College</td>
<td>Pellissippi State Community College</td>
<td>1,787</td>
<td>2.8%</td>
</tr>
<tr>
<td>Community College</td>
<td>Volunteer State Community College</td>
<td>1,693</td>
<td>2.7%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>University of Tennessee, Chatt.</td>
<td>1,591</td>
<td>2.5%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>Austin Peay State University</td>
<td>1,528</td>
<td>2.4%</td>
</tr>
<tr>
<td>Community College</td>
<td>Motlow State Community College</td>
<td>1,457</td>
<td>2.3%</td>
</tr>
<tr>
<td>Community College</td>
<td>Southwest Tennessee Comm. College</td>
<td>1,425</td>
<td>2.3%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>East Tennessee State University</td>
<td>1,364</td>
<td>2.2%</td>
</tr>
<tr>
<td>Community College</td>
<td>Walters State Community College</td>
<td>1,298</td>
<td>2.1%</td>
</tr>
<tr>
<td>Community College</td>
<td>Nashville State Community College</td>
<td>1,291</td>
<td>2%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>Tennessee Technological University</td>
<td>1,273</td>
<td>2%</td>
</tr>
<tr>
<td>Community College</td>
<td>Northeast State Community College</td>
<td>1,199</td>
<td>1.9%</td>
</tr>
<tr>
<td>Community College</td>
<td>Columbia State Community College</td>
<td>1,200</td>
<td>1.9%</td>
</tr>
<tr>
<td>Community College</td>
<td>Chattanooga State Comm. College</td>
<td>1,129</td>
<td>1.8%</td>
</tr>
<tr>
<td>Community College</td>
<td>Roane State Community College</td>
<td>1,145</td>
<td>1.8%</td>
</tr>
<tr>
<td>Community College</td>
<td>Jackson State Community College</td>
<td>893</td>
<td>1.4%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>University of Tennessee, Martin</td>
<td>735</td>
<td>1.2%</td>
</tr>
<tr>
<td>Four-year University</td>
<td>Tennessee State University</td>
<td>634</td>
<td>1%</td>
</tr>
</tbody>
</table>
Key Takeaways from Section I

• In 2016, Tennessee saw its highest graduation rate to date, at 88.5 percent. With 63 percent of graduates enrolling in a postsecondary institution immediately following graduation, more Tennessee students enrolled in postsecondary than ever before.

• The share of students enrolling in community colleges continues to remain above the rates of the 2014 graduates, largely due to the statewide implementation of Tennessee Promise, which was available statewide for the first time for the 2015 graduating class.

• Tennessee high school graduates enrolled in large numbers at public community colleges and public universities, with Pellissippi State Community College and University of Tennessee, Knoxville enrolling the most 2016 graduates.

• Guiding questions for districts in their individualized reports ask them to consider the following:
  • Postsecondary enrollment rates over time;
  • Enrollment variation between schools in their district;
  • Distribution of institution types chosen by students (e.g. universities, community colleges, and technical colleges);
  • Opportunities for partnerships with most commonly attended postsecondary institutions; and,
  • Comparisons with similar districts (See Appendix B: Business rules for description).

Appendix A contains potential strategies for your consideration in your local context.
Section II: Postsecondary Enrollment by Subgroup

This section provides an overview of enrollment trends for student subgroups across Tennessee. Percentages are calculated to display trends in postsecondary enrollment at four-year universities, community colleges, and technical colleges (TCATs) by black, Hispanic, and Native American students (BHN); economically disadvantaged students (ED); students with disabilities (SWD); and English learners (EL) in the 2016 graduating class. Beginning in fall 2018, Tennessee will report postsecondary enrollment rates by district on the state report card.
**Postsecondary Enrollment Table by Student Subgroup**

The following table shows postsecondary enrollment patterns by student subgroup for 2016 high school graduates. See Appendix B for comprehensive business rules.

<table>
<thead>
<tr>
<th>Name</th>
<th>Subgroup</th>
<th>Grads (N)</th>
<th>Four-year Univ.</th>
<th>Community College</th>
<th>TCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennessee</td>
<td>BHN</td>
<td>18,681</td>
<td>33%</td>
<td>20%</td>
<td>1%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Non-BHN</td>
<td>44,513</td>
<td>37%</td>
<td>27%</td>
<td>3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>ED</td>
<td>35,176</td>
<td>24%</td>
<td>24%</td>
<td>3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Non-ED</td>
<td>28,018</td>
<td>50%</td>
<td>27%</td>
<td>2%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>SWD</td>
<td>6,327</td>
<td>9%</td>
<td>22%</td>
<td>5%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Non-SWD</td>
<td>56,867</td>
<td>38%</td>
<td>26%</td>
<td>3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>EL</td>
<td>1,512</td>
<td>18%</td>
<td>19%</td>
<td>2%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Non-EL</td>
<td>61,682</td>
<td>36%</td>
<td>25%</td>
<td>3%</td>
</tr>
</tbody>
</table>

**Key Takeaways from Section II**

- One of Tennessee's greatest attributes is the diversity of its students. By identifying "All Means All" as a priority area in Tennessee Succeeds, the state's strategic plan, Tennessee is committed to ensuring that all students receive the opportunity to earn a postsecondary degree or certificate.

- Thirty percent of 2016 graduates identify as black, Hispanic, or Native American and at some point between grades 9 through 12, 60 percent were classified as economically disadvantaged, 10 percent were diagnosed or received services for their disability, and 3 percent of graduates were English learners.

- Postsecondary enrollment rates differ both across subgroups and relative to the state as a whole. Despite over 60 percent of all students enrolling in a postsecondary institution after high school (see Section I), just over 50 percent of black, Hispanic, or Native American students and economically disadvantaged students progressed into postsecondary. For students with disabilities and English learners, just a third of students enrolled in postsecondary following graduation.

- Guiding questions for districts in their individualized reports ask them to consider the following:
  - Postsecondary enrollment rates for each student subgroup.
  - Enrollment variation between schools in their district for each student subgroup;
  - Policies and practices that may contribute to any variation between schools; and,
  - Potential impact of closing gaps between all students and subgroups on district goals.

Appendix A contains potential strategies for your consideration in your local context.
Section III: Postsecondary Enrollment by Academic Achievement

ACT scores are a common proxy for student readiness for postsecondary. The ranges used in this report are based on the highest ACT composite scores for your district’s 2016 graduating class, and were selected to act as proxies for falling below readiness benchmarks (below 15), approaching readiness benchmarks (16-18), approaching HOPE Scholarship eligibility (19-20), meeting HOPE Scholarship eligibility (21-26), and among the top 10 percent nationally (27 and above).

Background

- Each ACT subject test has an associated College Readiness Benchmark, which indicates a 50 percent chance of obtaining a B or higher and a 75 percent chance of obtaining a C or higher in corresponding credit-bearing, first-year college courses.

- The ACT College Readiness Benchmarks are as follows: 18 in English, 22 in mathematics, 22 in reading, and 23 in science. Tennessee Board of Regents policy requires the following minimum scores to avoid mandatory learning supports or interventions in postsecondary: 18 in English, 19 in Mathematics, and 19 in reading.

- In 2016, the national average ACT composite score was 20.8 and Tennessee’s average ACT composite score was 19.9 for the high school graduating class of 2016. Of those students, 37.7 percent scored a 21 or higher, making them eligible for the Tennessee HOPE Scholarship if they have also maintained a minimum 3.0 grade point average (GPA) according to the Uniform Grading Policy adopted by the State Board of Education.
The figures below present the distribution of ACT composite scores for tested students in Tennessee, as well as postsecondary enrollment patterns for students with each range of scores. Percentages are calculated to display trends in postsecondary enrollment at four-year universities, community colleges, and technical colleges (TCATs) by the 2016 graduating class.

**Distribution of ACT Scores**

**Postsecondary Enrollment by ACT Score**
Postsecondary Enrollment Table by ACT Score

The following table shows postsecondary enrollment patterns by students' highest ACT composite scores for 2016 high school graduates in your district and school(s). If fewer than 10 students scored within a range, suppression rules are applied (marked by “*”); if no students enrolled in an institution type, the cell will read "0%." See Appendix B for comprehensive business rules.

<table>
<thead>
<tr>
<th>Name</th>
<th>ACT Score</th>
<th>Grads (N)</th>
<th>Four-year Univ.</th>
<th>Community College</th>
<th>TCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennessee</td>
<td>0-15</td>
<td>12,689</td>
<td>6.3%</td>
<td>23.2%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>16-18</td>
<td>12,375</td>
<td>20.5%</td>
<td>36%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>19-20</td>
<td>7,978</td>
<td>34.8%</td>
<td>36.7%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>21-26</td>
<td>16,639</td>
<td>57.5%</td>
<td>27%</td>
<td>1%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>27-36</td>
<td>7,161</td>
<td>86.8%</td>
<td>6.2%</td>
<td>&gt;1%</td>
</tr>
</tbody>
</table>

Key Takeaways from Section III

- The high school graduating class of 2016 was the first to have the student's highest ACT composite score reported as part of the state's average ACT score. Previously, the student's most recent score was used.

- Forty-four percent of tested students scored below a 19 on the ACT, and 37.7 percent of graduates scored a 21 or higher on the ACT. Of particular concern is the over 12,000 students who scored a 15 or below on the ACT.

- Eighty-eight percent of students who scored above a 21 on the ACT enrolled in a postsecondary institution.

- Guiding questions for districts in their individualized reports ask them to consider the following:
  - Distribution of student performance on the ACT and strategies to support student success on the ACT based on their level of achievement;
  - Patterns of postsecondary enrollment at different score ranges; and,
  - Alignment of ACT scores and postsecondary enrollment patterns with other district data points in report.

Appendix A contains potential strategies for your consideration in your local context.
Section IV: Postsecondary Enrollment by Coursework

Early postsecondary opportunities (EPSOs) allow students to earn college credit while in high school, develop the confidence and skills necessary for success in postsecondary, make informed postsecondary and career decisions, decrease the time and cost of completing a certificate or degree, and help to support a culture of college and career readiness for all students. Research has shown that students who participate in EPSOs are more likely to enroll and persist in postsecondary.

Background

• Tennessee has the most comprehensive early postsecondary opportunity (EPSO) offerings in the nation, which include local, state, national, and international programs for a total of eight different types of EPSOs.

• The figures and table include enrollment in three out of the eight possible types of opportunities: statewide dual credit, dual enrollment, and Advanced Placement.

• Most EPSOs award credit by culminating assessment with the exception of dual enrollment, which confers credit through successful course completion. A student is considered as having enrolled in an EPSO and attempted credit if he or she either sat for the requisite exam (for AP and statewide dual credit) or was enrolled in the end-of-term file at a Tennessee postsecondary institution (for dual enrollment). See Appendix B for comprehensive business rules.

• The data shown in the following figures and table are not estimates of the Ready Graduate Indicator as defined by Tennessee’s 2017 ESSA plan. For more information on changes to the accountability system in Tennessee, please visit the Tennessee Department of Education website. These data do not show the number of EPSOs in which students were enrolled or earned credit.
The figures below present the percentage of graduates who attempted an EPSO overall and by economic disadvantage status, as well as the postsecondary enrollment of students who attempted EPSOs compared to those who did not attempt EPSOs in the 2016 graduating class.

### Distribution of EPSO Attempts by Economic Disadvantage

![Distribution of EPSO Attempts by Economic Disadvantage](image)

### Postsecondary Enrollment by EPSO Attempt & Economic Disadvantage

![Postsecondary Enrollment by EPSO Attempt & Economic Disadvantage](image)
Postsecondary Enrollment Table by EPSO Attempt

The following table shows postsecondary enrollment patterns by EPSO enrollment and economic disadvantage for 2016 high school graduates. See Appendix B for comprehensive business rules.

<table>
<thead>
<tr>
<th>Name</th>
<th>Group</th>
<th>Grads (N)</th>
<th>Four-year Univ.</th>
<th>Community College</th>
<th>TCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennessee</td>
<td>All students, EPSO</td>
<td>25,161</td>
<td>60.4%</td>
<td>21.8%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>All students, No EPSO</td>
<td>38,033</td>
<td>18.9%</td>
<td>27.4%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>ED, EPSO</td>
<td>9,670</td>
<td>46.4%</td>
<td>24.5%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>ED, No EPSO</td>
<td>25,506</td>
<td>15.2%</td>
<td>23.3%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Non-ED, EPSO</td>
<td>15,491</td>
<td>69.1%</td>
<td>20.2%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Non-ED, No EPSO</td>
<td>12,527</td>
<td>26.5%</td>
<td>35.8%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

Key Takeaways from Section IV

- Nearly 40 percent of high school graduates attempted at least one Early Postsecondary Opportunity, but non-economically disadvantaged students were twice as likely to take an EPSO than their economically disadvantaged peers despite policies targeted to address financial constraints, such as dual enrollment lottery scholarships, AP fee waivers, and the statewide dual credit Challenge exams which are no cost to the student.

- Over 80 percent of graduates who took an EPSO enrolled in a postsecondary institution after they graduate compared to under half of those who did not. Students who attempted EPSOs are more likely to enroll in four-year universities than their peers.

- Analyzing the outcomes for students by their economic background, EPSOs appear to benefit economically disadvantaged students. Nearly 75 percent of economically disadvantaged students who took an EPSO enrolled in postsecondary, higher than ED students who did not take an EPSO (42 percent) and non-ED students who did not take an EPSO (66 percent).

- Guiding questions for districts in their individualized reports ask them to consider the following:
  - Trends in EPSO attempted across schools in their district, overall and by student subgroup;
  - Formal policies, informal practices, and/or lack thereof that may be related to EPSO access for students from different backgrounds;
  - Available data to strategically selecting EPSOs to increase access for all students;
  - Communication strategies to inform students and parents of EPSOs; and,
  - Leveraging data to inform policies and practices to determine student placement in and encourage completion of EPSOs.

Appendix A contains potential strategies for your consideration in your local context.
Section V: Career and Technical Education

This section provides an overview of career and technical education (CTE) in Tennessee, exploring programs of study alignment to regional workforce needs and the postsecondary enrollment patterns by career cluster.

In-Demand Programs of Study

In collaboration with the Tennessee Department of Economic and Community Development (TNECD), the Tennessee Higher Education Commission, the Tennessee Department of Labor and Workforce Development (TNLWD), and CTE content experts, the department aligned each program of study to the labor codes identified by TNECD and TNLWD as high need in each of Tennessee’s nine regions in the 2016 LEAP report. Demand represents the number of total opportunities that are available in each region for that specific occupation; specifically, in-demand occupations are based on high rates of hires, openings, and/or postings relative to total employment. The top twenty programs identified below are in demand in at least 5 regions across the state. In many cases, the occupations require postsecondary degrees or certificates, but the alignment of the program prepares students to access these opportunities. See Appendix B for comprehensive business rules.

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Program of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture &amp; Construction</td>
<td>Res. &amp; Comm. Construction</td>
</tr>
<tr>
<td>Advanced Manufacturing</td>
<td>Machining Technology</td>
</tr>
<tr>
<td>Marketing</td>
<td>Marketing Management</td>
</tr>
<tr>
<td>Health Science</td>
<td>Therapeutic Services</td>
</tr>
<tr>
<td>Science, Tech., Engineering, &amp; Math.</td>
<td>STEM Education</td>
</tr>
<tr>
<td>Business Management &amp; Administration</td>
<td>Business Management</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Networking Systems</td>
</tr>
<tr>
<td>Science, Tech., Engineering, &amp; Math.</td>
<td>Technology</td>
</tr>
<tr>
<td>Human Services</td>
<td>Social Health Services</td>
</tr>
<tr>
<td>Transportation, Distribution, &amp; Logs.</td>
<td>Distribution and Logistics</td>
</tr>
<tr>
<td>Health Science</td>
<td>Diagnostic Services</td>
</tr>
<tr>
<td>Finance</td>
<td>Accounting</td>
</tr>
<tr>
<td>Business Management &amp; Administration</td>
<td>Human Resources Management</td>
</tr>
<tr>
<td>Law, Public Safety, Corr., &amp; Security</td>
<td>Law Enforcement Services</td>
</tr>
<tr>
<td>Finance</td>
<td>Banking and Finance</td>
</tr>
<tr>
<td>Health Science</td>
<td>Public Health</td>
</tr>
<tr>
<td>Science, Tech., Engineering, &amp; Math.</td>
<td>Engineering</td>
</tr>
<tr>
<td>Advanced Manufacturing</td>
<td>Welding</td>
</tr>
<tr>
<td>Arts, A.V., &amp; Communication</td>
<td>Digital Arts &amp; Design</td>
</tr>
</tbody>
</table>
The figures below present overall patterns of career clusters in the 2016 graduating class, as well as postsecondary enrollment patterns for those students. Forty-seven percent of 2016 graduates took at least three courses in at least one program of study within a career cluster, while four percent of students took at least three courses in a program of study in multiple career clusters.

**Distribution of Students who Concentrate in CTE**

**Postsecondary Enrollment by Career Cluster**
## Postsecondary Enrollment Table by Career Cluster

The following table shows postsecondary enrollment patterns by career cluster for 2016 high school graduates. See Appendix B for comprehensive business rules.

<table>
<thead>
<tr>
<th>Name</th>
<th>Career Cluster</th>
<th>Grads (N)</th>
<th>Four-year Univ.</th>
<th>Community College</th>
<th>TCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennessee</td>
<td>Advanced Manufacturing</td>
<td>872</td>
<td>11.4%</td>
<td>15.6%</td>
<td>20.3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Agriculture</td>
<td>3,956</td>
<td>20.5%</td>
<td>27.1%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Arts, A/V</td>
<td>1,801</td>
<td>35.4%</td>
<td>29.9%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Business</td>
<td>2,265</td>
<td>35.9%</td>
<td>30.2%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Construction</td>
<td>2,462</td>
<td>16.9%</td>
<td>19.9%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Education</td>
<td>347</td>
<td>32.6%</td>
<td>37.2%</td>
<td>.6%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Finance</td>
<td>626</td>
<td>44.9%</td>
<td>26.7%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Health Science</td>
<td>6,348</td>
<td>43.9%</td>
<td>33.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Hospitality</td>
<td>1,296</td>
<td>25.8%</td>
<td>28.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Human Services</td>
<td>4,500</td>
<td>23%</td>
<td>29.3%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Information Technology</td>
<td>1,295</td>
<td>30.3%</td>
<td>33.7%</td>
<td>3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Law and Public Safety</td>
<td>1,777</td>
<td>27.7%</td>
<td>31.9%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Marketing</td>
<td>1,599</td>
<td>44.3%</td>
<td>26.7%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>STEM</td>
<td>1,408</td>
<td>40.4%</td>
<td>26.3%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Trade and Industrial</td>
<td>43</td>
<td>27.9%</td>
<td>25.6%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Transportation</td>
<td>1,770</td>
<td>9.4%</td>
<td>13.8%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Not a concentrator</td>
<td>33,559</td>
<td>39.5%</td>
<td>22.8%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>
Key Takeaways from Section V

- According to a new analysis by the Tennessee Department of Education, Tennessee Higher Education Commission, and Tennessee Department of Labor and Workforce Development, seventy-five percent of programs of study offered by districts in the 2017-18 school year are aligned with regional workforce needs.

- According to this analysis, the programs of study with the most aligned in-demand occupations are residential and commercial construction, machining technology, and mechanical, electric, and plumbing systems.

- Forty-seven percent of the 2016 high school graduates concentrated in a CTE career cluster by taking at least three courses within a program of study. The most common career clusters were health science, human services, and agriculture.

- Postsecondary enrollment trends for CTE and non-CTE students are similar, but there is significant variation across career clusters. Four career clusters enrolled over seventy percent of the students who concentrated: health science, finance, marketing, education, and science, technology, engineering and mathematics. Transportation, construction, and advanced manufacturing enrolled less than half of the students who concentrated in a program of study in that cluster. However, advanced manufacturing and transportation sent the largest share of concentrators to technical colleges.

- Guiding questions for districts in their individualized reports ask them to consider the following:
  - Opportunities for aligning programs of study with regional workforce needs;
  - Programs of study to shift away from or introduce to better align with industry and postsecondary opportunities in the region.
  - Partnerships with most common institutions (Section I) to identify majors that align with programs of study and to address capacity limitations to offer CTE programs of study; and,
  - Building capacity among teachers, counselors, and administrators to understand career opportunities and requirements and support student pathways.

Appendix A contains potential strategies for your consideration in your local context.
Appendix A: Potential Strategies

As you review the data for your district and/or school(s), consider the following strategies as suggestions for addressing identified needs or areas for growth. These strategies are organized according to the sections of this report and are not intended to be an exhaustive list. Instead, they are intended to provide ideas to consider as you continue to improve the opportunities for students in your district and/or school(s).

Section I: Postsecondary Enrollment

- Review and update existing articulation agreements with local postsecondary institutions to focus on increasing early postsecondary credit attainment and vertical alignment.
  - Compare your dual enrollment programs with your postsecondary enrollment trends. If these are not aligned, consider updating your dual enrollment program to encourage more students to earn credits while in high school and to enroll seamlessly in postsecondary after graduation.
- Develop or improve relationships with your most common institutions to ensure students are aware of important enrollment information, such as programs offered, financial aid, and application deadlines.
- Consider differences in the characteristics of your students who are enrolling in postsecondary and those who are not. What barriers to seamless enrollment might you be able to remove for your students?
  - For example, if students report acceptance into postsecondary at a rate that is higher than the actual enrollment listed above, what challenges might they be facing during the summer between high school graduation and the beginning of their postsecondary program? Could the addition of an alumni mentorship program or increased parent communication reduce or prevent “summer melt”?
  - Consider collecting and examining early warning system data for early signs of postsecondary readiness among different students. Research points to ninth grade as a significant transition point: Students who fail one or more courses in ninth grade, have disciplinary issues, or are chronically out of school are less likely to graduate high school and continue to postsecondary.
- Reach out to comparison districts with particularly interesting areas of strength in postsecondary enrollment trends and compare their programs with your own. What strategies might those districts be implementing that could also be appropriate for your context?
Section II: Postsecondary Enrollment by Subgroup

- Review existing policies and practices governing early postsecondary course enrollment, attendance at postsecondary events and activities, and student advisement. Are there changes you could make to increase participation by underrepresented subgroups?
- Conduct further research, including student interviews, to discern potential underlying causes for differences between subgroup enrollment trends. Work to remove barriers that exist for specific subgroups.
- Take advantage of state and local resources to provide support for subgroups (e.g., EPSO and ACT/SAT test fee waivers for economically disadvantaged students) and remove barriers to postsecondary enrollment.

Section III: Postsecondary Enrollment by Academic Achievement

- Review current practices around curriculum and instruction for ACT success. Have teachers and/or administrators completed a curriculum audit to map the connections between state academic standards and ACT tested standards? How are you coordinating between your high school(s) and middle school(s) to vertically align instructional practices and standards to ensure ACT success? Are you offering the ACT preparation course "Preparing for the ACT, Postsecondary, and Career"?
- Review current practices in helping students understand how the ACT is connected to college and career opportunities. Are you offering the "Career Exploration Course" (or a similar opportunity) in your district in the eighth or ninth grade? If you offer an ACT preparation course, does it include time and resources for postsecondary planning? Do parents and families know how the ACT can increase student opportunities for admission, financial aid and scholarships, and workforce readiness?
- Review current practices for creating a culture and climate in which ACT success is recognized and celebrated. Do students have the opportunity to take practice ACT tests before their test date? Are teachers using results from practice ACT tests to provide targeted support, remediation, and/or enrichment to address student needs? Is student growth and achievement publicly recognized and/or celebrated?
Section IV: Postsecondary Enrollment by Coursework

- Explore the different types of EPSOs and the policies that affect them. How are these EPSOs aligned to your students’ postsecondary enrollment trends?
- Examine your current student population. What do your students want to do after graduation? What postsecondary program(s) will they need to be successful on their chosen path? How can you build a bridge to get your students there?
  - For students with Individualized Education Programs (IEP), review transition plans to determine whether students’ programs of study align with their postsecondary goals.
- Consider how existing state and local data—both quantitative and qualitative—can be used to inform EPSOs and student placement.
- Identify barriers that prohibit students from gaining the full benefit of EPSOs and discuss potential solutions. What are some examples of challenges you or your students have faced in taking advantage of EPSOs? What are some ways to increase diversity in access to and enrollment in EPSOs by student subgroups? What role can educators play in increasing equity in EPSO enrollment in your school(s)?
- Review your communications strategies. How are you providing students with accurate information about early postsecondary and postsecondary opportunities to help them navigate their options?
- Develop and improve partnerships with local postsecondary institutions to increase early postsecondary offerings and encourage postsecondary matriculation.

Section V: Career and Technical Education

- Consider conducting a needs analysis to identify the industry and postsecondary opportunities in your region. How can you utilize that data with your CTE director to select programs of study that support education-to-career learning pathways for your students? What revisions to the programs of study you are currently offering might be appropriate? Resources for determining which programs of study to offer in your district and/or school(s) can be found in the department’s open enrollment guide.
- Conduct a review of the membership on your district industry advisory council. Do you have the right representation from industry and postsecondary to provide actionable feedback to CTE programs in your district and/or school(s)? If not, how might you grow this group or address current gaps?
- Consider how your partnerships with postsecondary institutions may help share classroom space and/or teachers to increase the availability of aligned program of study options in your region.
Appendix B: Business Rules

The following section describes how certain data points are calculated for this report.

**ACT scores** are students' highest ACT composite scores, per accountability rules. In this report, ACT composite score ranges are used as proxies for learning support benchmarks and HOPE eligibility: Scoring a 21 on the ACT opens up HOPE scholarship opportunities, while scoring below an 18 or a 19 (depending on subject area) results in required learning support classes at community colleges.

**CTE concentrators** are students who have earned three or more credits within a career cluster or CTE program of study. Students are identified as CTE concentrators in the eTIGER system.

**District comparisons** are determined based on the student enrollment, per pupil expenditure, CORE region, grade span offered, and demographic make-up of the district. Demographic make-up includes the percentage of students in the districts classified as black, Hispanic, Native American; economically disadvantaged students; students with disabilities; and English learners. All characteristics are equally considered in the calculation. The comparable districts are those which are the most similar when these characteristics are taken into account.

**Early postsecondary opportunities (EPSOs)** exist in eight approved types in Tennessee, but reliable data for the 2016 graduating class is only available for Advanced Placement (AP), dual enrollment, and statewide dual credit. A student is considered as having participated in dual enrollment if he or she registers greater than 0 hours earned at a postsecondary institution in a semester before being declared a high school graduate. The department uses the Tennessee Longitudinal Data System (TLDS) to identify all high school students who are identified at the end-of-semester file submission to the Tennessee Higher Education Commission (THEC) by Tennessee colleges and universities. A student must sit the requisite exam to attempt AP credit or statewide dual credit. **This is NOT the Ready Graduate indicator.**

**Graduates** are defined as having completed a regular high school diploma within four years and one summer from the student’s ninth grade cohort year, per accountability rules.
**Institution type** refers to one of the three main institution types: four-year universities, two-year colleges, and technical colleges. Given that we are unable to observe whether the student attends a two-year program at a four-year institution, there may be instances where students are identified as enrolling in a four-year institution but are attempting an associate's degree.

**Postsecondary data** is captured from two sources. The Tennessee Higher Education Commission (THEC) uses the Tennessee Longitudinal Data System (P20) to identify the high school graduates from Tennessee public high schools. THEC then matches those students with the data reported from Tennessee public postsecondary institutions' end-of-semester files. Tennessee public postsecondary institutions comprise Tennessee Board of Regents (TBR) schools, the University of Tennessee system (UT), Tennessee Colleges of Applied Technology (TCATs), and Tennessee Independent Colleges and Universities Association (TICUA) institutions. THEC also sends a list of graduates to the National Student Clearinghouse (NSC). In cases where a student is identified in the MeasureTN database as an active student in two schools, the THEC enrollment instance is selected. N.B. In August, 2017, LEAs were given the opportunity to identify 2016 graduates who enlisted in the military directly after high school. These students are removed from the "Did not enroll" group, resulting in a few cases where the total percentages across institution types and non-enrollees in figures do not add to 100%.

**Postsecondary enrollment** is defined as seamless enrollment in a postsecondary institution in the fall following high school graduation. This definition is consistent with the College-Going Rate reported by THEC.

**Regional alignment of programs of study** is captured by the 2016 Labor and Education Alignment Program Report, a statewide and regional study of occupations in high demand based on labor shortages in high quality jobs released by the Tennessee Department of Economic and Community Development (TNECD). The evaluation identifies occupational gaps by focusing on key metrics such as growth, median wage, online job postings, hires, job openings, and educational program completions. Additionally, the Tennessee Department of Labor and Workforce Development (TNLWD) conducts analyses on projected “hot careers” through 2024. CTE content experts, in collaboration with TNECD, TNLWD, and the Tennessee Department of Education, aligned programs of study with these occupations. Strong alignment would be offering a program of study that has at least one in-demand occupation in the same region. In other words, programs of study within a district should be aligned to the top occupations in the region. As a caveat, for STEM and entrepreneurship programs of study, we may not see direct labor data to support these programs in regional data; however, we know that these programs have strong value and have successfully contributed to students' skills and workforce needs.
Subgroup identification is consistent with department accountability protocol, where a student is identified on or after July 1, 2012, for 2016 high school graduates. A student is marked economically disadvantaged if they have a student classification code of H, I, J, and/or U. Students with disabilities (SWD) have any disability types except 3 or 16. English learners have ELB codes of L or W for any primary enrollment in a school that does not have a type of 8 or 9. Finally, the black, Hispanic, and Native American subgroups are identified using accountability hierarchy. To meet federal reporting requirements, beginning in 2018 the department will display postsecondary enrollment rates for these subgroups on the state report card.

Suppression rules dictate that percentage values are suppressed when fewer than 10 students are included in the denominator of a calculation. For the "Most Common Postsecondary Institutions for 2016 Enrollment" table (Section I), values are suppressed when fewer than five students enroll in a single institution. When values are suppressed within a table, the cell will read "*.*"
Appendix C: Postsecondary Systems

**National Student Clearinghouse (NSC):** The National Student Clearinghouse is a 501(c)(3) non-profit organization whose mission is to conduct and support objective research related to educational enrollment, progression, and completion for the benefit of students, institutions, and the public. About 96 percent of all students nationally who are enrolled in degree-granting institutions are attending schools that regularly send their data to NSC. Ninety-six percent of all degree-granting, Title IV-eligible public institutions and 73 percent of all non-profit, four-year private institutions participate in NSC data collection. Most U.S. military academies and tribal colleges do not participate in NSC data collection. Out-of-state enrollment for Tennessee high school graduates are provided by NSC.

**Tennessee Board of Regents (TBR):** The Tennessee Board of Regents is one of two systems of public higher education in Tennessee. TBR was authorized by an act of the Tennessee General Assembly passed in 1972. TBR governs the 27 Tennessee Colleges of Applied Technology (TCATs) and 13 community colleges.

**Tennessee Colleges of Applied Technology (TCAT):** There are 27 Tennessee Colleges of Applied Technology across the state governed by the Tennessee Board of Regents. Through the TCAT Workforce Development mission, Tennessee residents are able to obtain the technical skills and professional training necessary for advancement in today’s competitive job market.

**Tennessee Higher Education Commission (THEC):** The Tennessee Higher Education Commission was created in 1967 by the Tennessee General Assembly to achieve coordination and foster unity statewide in higher education. THEC develops, implements, and evaluates postsecondary education policies and programs in Tennessee while coordinating the state’s systems of higher education.

**Tennessee Independent Colleges and Universities Association (TICUA):** The 34 member institutions of TICUA educate over 81,000 students in Tennessee. Over 1,000 students participate in dual enrollment opportunities at TICUA institutions each year. Members institutions’ enrollments vary from 200 to over 12,500 students.

**University of Tennessee system (UT):** The University of Tennessee system comprises campuses in Knoxville, Chattanooga, and Martin; the Health Science Center at Memphis; and the statewide Institute of Agriculture and Institute for Public Service. UT has a presence in each of Tennessee's 95 counties. Through its education, research, and outreach, UT serves students, businesses and industries, schools, governments, organizations, and citizens throughout the state.
Appendix D: Resources

For information about counseling, email School.Counseling@tn.gov.
For questions about EPSOs, email Early.Postsecondary@tn.gov.
For questions about the ACT, email ACT.Questions@tn.gov.
For information about CTE, email CTE.Questions@tn.gov.
For general support, email your CORE data analyst.

Helpful Resources

ACT/SAT

ACT Connections
ACT Preparation Pilot Report
ACT Retake Implementation Guide
ACT Toolkit
Preparing for the ACT, Postsecondary, and Career (Course Standards)
Tennessee ACT/SAT Webpage

Career and Technical Education

2017-18 Programs of Study
CTE Program of Study Marketing Materials
CTE Resources
Open Enrollment Guide
Program of Study Justification Process
Promising Practices
Promoted Industry Certifications
Student Industry Certification Guidance
Vision of Excellent CTE Instruction

Early Postsecondary

Early Postsecondary
EPSO Funding Options
EPSO Implementation Guide
EPSO Poster
Postsecondary

Tennessee Board of Regents
Tennessee College Pays
Tennessee Promise
University of Tennessee
Tennessee Independent Colleges & Universities Association

Student Advisement and Transitions

A Path of Choice Report
Career Exploration (Course Standards)
CollegeForTN.org
Pathways Tennessee
Seamless Pathways Report
School Counseling
Student Advisory Council Report
Student Milestones for College & Career Readiness
Transition Tennessee