



New York State Comptroller
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Oversight of Career and Technical Education Programs in New York State Schools

State Education Department

Report 2019-S-29 | December 2020

Spotlight on Education



Audit Highlights

Objectives

To determine whether current State Education Department (Department) career and technical education (CTE) activities are sufficient to meet high-demand, high-growth, and high-salary job market needs; and what the Department, school districts, and Boards of Cooperative Educational Services (BOCES) can do to enhance CTE programs. The audit covered the 2015-16 through 2018-19 school years and additional information through January 9, 2020.

About the Program

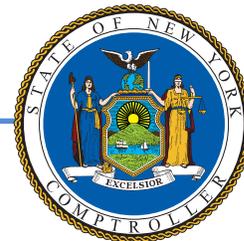
CTE prepares students to succeed in future careers by introducing them to workplace competencies and providing hands-on learning in the high school setting. According to a national non-profit entity that represents State CTE directors, the high school graduation rate for students who have completed two consecutive CTE courses in the same program is about 90 percent – 15 percentage points higher than the national average. The Department is responsible for overseeing CTE funding and State CTE programs. CTE programs may be Department-approved (Approved programs) or may operate outside of the Department approval structure (Local programs).

Key Findings

- Department oversight efforts need improvement to ensure CTE programs offered through the secondary school system align with student goals and the needs of the State labor market. We found that CTE programs and respective student enrollments generally do not align with occupations that are most in demand, fastest growing, or highest salaried in the State. Department of Labor statistics indicate 41 percent of Approved programs (421 of 1,021) are providing students with skills for occupations that pay less than the State average. Additionally, enrollment in certain CTE programs exceeds the number of open positions in the job market. For example, for the 2018-19 school year, enrollment in Approved programs for chefs and head cooks exceeded the occupational demand by 224 percent.
- Students encounter several barriers to enrolling in and successfully completing CTE programs, including scheduling restrictions and insufficient program support by officials. Cost concerns, including BOCES CTE program reimbursement rates and low CTE instructor pay, may also restrict program growth and student opportunity.

Key Recommendations

- Ensure Approved and Local programs, as well as student enrollments, align with State workforce needs and meet the career goals of secondary school students.
- Work with schools to ensure they are adequately promoting, supporting, and teaching CTE programs.



Office of the New York State Comptroller Division of State Government Accountability

December 21, 2020

Dr. Betty A. Rosa
Interim Commissioner
State Education Department
State Education Building
89 Washington Avenue
Albany NY, 12234

Dear Dr. Rosa:

The Office of the State Comptroller is committed to helping State agencies, public authorities, and local government agencies manage their resources efficiently and effectively. By so doing, it provides accountability for the tax dollars spent to support government operations. The Comptroller oversees the fiscal affairs of State agencies, public authorities, and local government agencies, as well as their compliance with relevant statutes and their observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit titled *Oversight of Career and Technical Education Programs in New York State Schools*. This audit was performed pursuant to the State Comptroller's authority under Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

Division of State Government Accountability

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Glossary of Terms

| Term | Description | Identifier |
|------------------|--|-----------------|
| AP | Advanced Placement | <i>Key Term</i> |
| Approved program | Career and technical education program that has received Department approval | <i>Key Term</i> |
| BOCES | Boards of Cooperative Educational Services | <i>Key Term</i> |
| CIP code | Classification of Instructional Programs code | <i>Key Term</i> |
| CTE | Career and technical education | <i>Key Term</i> |
| CTE Office | State Education Department's CTE Office | <i>Auditee</i> |
| CTE programs | Includes both Approved and Local CTE programs | <i>Key Term</i> |
| Department | State Education Department | <i>Auditee</i> |
| DOL | Department of Labor | <i>Agency</i> |
| Education Law | New York State Education Law | <i>Law</i> |
| Endorsement | CTE diploma endorsement | <i>Key Term</i> |
| GIS | Geographic Information Systems | <i>Key Term</i> |
| Local program | CTE program that operates outside of the Department approval structure | <i>Key Term</i> |
| NOCTI | National Occupational Competency Testing Institute assessment | <i>Key Term</i> |
| NYC | New York City | <i>Key Term</i> |
| Perkins Act | Federal Carl D. Perkins Career and Technical Education Act | <i>Law</i> |
| SOC code | Standard Occupation Classification code | <i>Key Term</i> |
| TAC | Technical Assistance Center | <i>Key Term</i> |

Background

Career and technical education (CTE) programs (referred to in the past as vocational, occupational, or practical arts education) provide students with academic and technical skills, workplace competencies, and hands-on training over a short period of time to prepare them for future careers in occupational fields such as dental assisting, plumbing, electrical, cosmetology, culinary, and vehicle maintenance.

(See Figures 1–4 for examples of CTE program studies.) High school students involved in CTE are more engaged and graduate at higher rates. According to a national non-profit entity that represents State CTE directors, the high school graduation rate for students who have completed two consecutive CTE courses in the same program is about 90 percent – 15 percentage points higher than the national average.

CTE can also address the needs of high-growth industries by helping to close skills gaps without the need for extensive post-secondary education. For example, half of all jobs in science, technology, engineering, and math industries require candidates with less than a bachelor's degree, while more than 80 percent of manufacturers report that talent shortages affect their ability to meet customer demand.

The New York State Board of Regents sets overall education policy for the State and selects the Commissioner for the State Education Department (Department), who is responsible for carrying out education policies in New York. The Department is charged with the general management and supervision of all public schools and educational work of the State, and serves as the administrative entity for secondary, post-secondary, and adult career and technical education.

The Department's CTE Office is responsible for overseeing the delivery of CTE education programs in the State's secondary school systems. The Department also contracts with a non-profit entity to provide a CTE Technical Assistance Center (TAC) to assist schools and Boards of Cooperative Educational Services (BOCES) with CTE. The TAC is responsible for expanding CTE across the State and provides comprehensive professional and leadership development and CTE guidance, including assistance with program administration, reporting, and other aspects of establishing and operating successful CTE programs.

Approximately 136,000 New York State students (excluding New York City [NYC]) graduate high school annually, of whom about 6 percent receive a CTE endorsement (Endorsement) on their diploma. Endorsements demonstrate that students have met the academic and industry standards of the respective CTE program and can increase the likelihood of obtaining employment in the associated field of study.



From top to bottom: **Figure 1** shows the Horticulture and Plant Science program at Buffalo Public School's McKinley High School; **Figure 2** shows the Digital Video Production program at Rochester City School's Edison Career and Technology High School; and **Figure 3** shows the Culinary Arts program at Albany City School District's Abrooklin Career and Technical Center.

CTE programs may be Department-approved (Approved programs) or may operate outside of the Department approval structure (Local programs). Approved programs must successfully undergo the Department’s CTE program approval process and lead to an industry-recognized credential or certificate or an associate or baccalaureate degree. Approved programs also offer:

- An opportunity to apply academic concepts to real-world situations;
- Preparation for industry-based assessments or certificates;
- The opportunity to earn college credit or advanced standing while still in high school; and
- Work-based learning opportunities.



Figure 4: Examples of CTE programs at Edison Career and Technology High school in the Rochester City School District.

Over 140 school districts and 37 BOCES outside of NYC deliver Approved programs in secondary schools. There are 1,021 Approved programs geographically dispersed outside of NYC (see Exhibit A), of which 683 (67 percent) are operated by BOCES.

While both Approved and Local CTE programs may operate at school districts or BOCES, only Approved programs can lead to an Endorsement. Local programs provide students with CTE-related skills, but have not obtained the Department approval required to grant students an Endorsement. To receive a diploma with an Endorsement, students must complete a three-part technical assessment for the Approved program, pass all required State assessments, and fulfill all other graduation requirements. A student can receive an Endorsement on a Local Diploma (non-Regents Diploma), Regents Diploma, or Regents Diploma with Advanced Designation (with or without Honors).

The U.S. Department of Education supports the effective alignment between CTE program curriculum and skills the labor market needs. In accordance, one of the purposes of the federal Carl D. Perkins Career and Technical Education Act (Perkins Act) is to more fully develop the academic and career and technical skills of students who enroll in CTE programs by building on the efforts of states and localities to develop challenging academic and technical standards and assist students in meeting such standards, including preparation for high-skill, high-wage, or high-demand occupations in current or emerging professions. The reauthorized legislation (effective July 1, 2019) includes goals such as aligning CTE programs with labor market demand, strengthening the CTE teacher and faculty pipeline, and expanding the reach and scope of guidance and counseling. The Perkins Act requires each state seeking federal grant assistance to develop an implementation plan describing, among other things, how state, regional, or local labor market data will be used to assess alignment of programs of study with the needs of the respective economy. As such, the Department’s plan describes Approved CTE programs as “coherent sequences of courses that transition students from secondary to post-secondary education, preparing students for high-skill, high-wage careers.”

To receive Perkins grant funding, schools and BOCES have to administer Approved programs. The State received \$53.8 million in Perkins grant funding for the 2018-19 school year, of which approximately \$11 million was allocated to secondary schools outside of NYC. This accounted for approximately 4 percent of the more than \$253 million provided by the Department to secondary school districts and BOCES (outside of NYC) for CTE programming that year.

Audit Findings and Recommendations

Department oversight should be improved to better align CTE programs with high-demand, high-growth, or high-salary occupations in New York State. Forty-one percent of Approved programs (421 of 1,021) are providing students with skills for occupations that pay less than the State average. Additionally, enrollment in certain CTE programs exceeds the number of open positions in the job market. For example, the 2018-19 school year enrollment in Approved programs for chefs and head cooks exceeds the occupational demand by 224 percent.

In response to our preliminary findings, Department officials stated the key objective for high school CTE programs is for all students to graduate high school, and disagreed with the premise of our audit, stating they do not view high school CTE program enrollment as a direct means of fulfilling employer needs. They further stated that labor market alignment is “perhaps the least of the goals of secondary level CTE” and that they are focused on educational outcomes and the development of a path forward for students, not workforce development. However, as the State’s education administrator, the Department should ensure CTE programs align with students’ career goals, while also addressing State occupational demands. Attention to these demands should help address – not compete with – the Department’s stated concerns.

We found that issues such as scheduling restrictions, inconsistent program requirements, and insufficient program support by officials also inhibit student enrollment and retention and the overall success of CTE programs. As a result, the number of students learning industry-specific skills through CTE programs is adversely impacted, ultimately contributing to the lack of available skilled employees in certain industries.

Additionally, we determined that, because Local programs are not part of the Approved program structure and do not receive Perkins Act funding, the Department is unaware of the extent to which Local programs even exist in the State, much less how they perform.

Approved CTE Program and Student Enrollment Alignment With Labor Needs

Approved programs do not always provide high-quality opportunities for students that also meet the labor needs of the State and its businesses. Approved programs often lead to occupations that pay less than the State average or frequently require four or more years of additional education. While almost all the Approved programs in the State (1,006 of 1,021) align with occupations that are in high demand, have a high growth projection, or typically lead to a high salary (see Exhibit B for a breakdown of the Approved programs with the highest student enrollments and associated performance), only 30 percent meet all three criteria (see Table 1).

Table 1 – Criteria Met by Approved Programs

| Classification | Number of Programs That Meet Classification | Percent of Programs That Meet Classification | Number of Occupations Aligned With Programs |
|---------------------------------------|--|---|--|
| High Salary, High Demand, High Growth | 304 | 30% | 26 |
| High Salary, High Demand | 161 | 16 | 19 |
| High Salary, High Growth | 66 | 6 | 14 |
| High Growth, High Demand | 119 | 12 | 15 |
| High Salary | 68 | 7 | 10 |
| High Demand | 247 | 24 | 15 |
| High Growth | 41 | 4 | 9 |
| Did Not Meet Any of the Criteria | 15 | 1 | 6 |
| Totals | 1,021 | 100% | 114 |

Using Department of Labor (DOL) data, we determined high-salary occupations as being at or above the State average salary (excluding NYC) for all occupations of \$52,480; high-growth occupations as exceeding the ten-year average State occupational growth rate of 9.76 percent; and high-demand occupations as those for which the projected annual openings exceed the State median of 256.

During the 2018-19 school year, only 13 percent of students (6,014 of 45,228) were enrolled in Approved programs that closely aligned with occupations deemed highest in demand, growth, and salary. We determined 42 percent of students (19,204 of 45,228) were enrolled in programs that align with an occupation with a typical salary below the State average. The remaining student enrollments (26,024 of 45,228) were in Approved programs leading to an occupation that typically exceeds the State average salary.

According to New York State Education Law (Education Law), the board of education for each school district shall provide secondary school pupils and adults access to programs of career education, commensurate with the interests and capabilities of those desiring and having a need for preparatory training, retraining, or upgrading for employment. It shall also develop realistic programs in accord with employer needs in existing and emerging occupations for present and projected employment opportunities. However, some Approved programs – such as those for automotive technicians, chefs and cooks, and cosmetology – have annual student enrollment that exceeds the annual projected job market need. This assessment does not take into consideration Local programs, which may also be training students for these occupations, further compounding the issue.

According to DOL labor statistics, for all regions outside of NYC, the expected employment growth and annual openings for occupations related to 99 of the 1,021

Approved programs with 2,861 students enrolled have an unfavorable employment prospect in the State, of which 39 Approved programs with 1,375 students enrolled align with occupations with a negative projected growth rate. These factors increase the risk that these students may have difficulty locating employment in their field of study. Although part of the Department's program approval process requires schools and BOCES to demonstrate industry need, the Department does not assess enrollment in or successful completion of Approved programs. Nor does the Department assess whether student outcomes align with the needs of the State labor market or whether CTE programs sufficiently meet student career goals.

In response to our preliminary report, the Department stated it has no authority under the Education Law or current regulation to require schools or BOCES to offer any particular CTE program. The Department also stated CTE programs serve multiple purposes, several of which they consider above labor market alignment. These considerations include creating a student interest-driven pathway to graduation to keep at-risk students from dropping out and providing students with opportunities to apply academic concepts to real-world situations. However, Department officials failed to explain why CTE programs could not address these considerations and still provide students with skills suited for an occupation with an optimistic growth, salary, and demand potential.

Department Oversight of CTE Programs

The Department's CTE Office lacks sufficient employee resources to monitor CTE programming in the State. The CTE Office focuses on review of CTE program applications and administration of the Perkins grant and does not perform routine visits to program locations or monitor program-level performance. As a result, its oversight activities are insufficient for assessing how both Approved and Local programs are performing in regard to successful student outcomes and industry alignment. Inadequate oversight creates an increased possibility of gaps in CTE program content delivery and allows the operation of programs that fail to equip students with the knowledge and skills sought by employers.

According to the Department, the best CTE programs in the State have fulfilled the dual role of providing skills students can use immediately in an entry-level position and those they will need throughout their careers, regardless of occupation. Further, the TAC maintains, "in addition to middle school and high school alignment, district offerings should be aligned with post-secondary opportunities and consistent with the local, state, and national employment needs of the next decade." Monitoring of program performance is an important component to ensuring both Approved and Local programs are fulfilling these goals.

School districts and BOCES have significant latitude to administer and operate CTE programs under their purview and the Department does not measure how adept these programs are in providing students with skills they need for occupations in their respective program of study. In addition, the Department cannot be certain of the percentage of students who have received an industry credential as a result

of completing a CTE program. Further, the system the Department uses to collect CTE data captures only what occurred during a student's secondary education. Consequently, the Department is unable to accurately or completely assess post-high school outcomes, such as whether the student is enrolled in post-secondary education, is in an apprenticeship, or is employed in the field of study.

Local programs must follow Department requirements concerning teacher certifications and instructional time; however, they function less restrictively because they operate outside of the State CTE program approval structure. The Department conveyed it does not have leverage outside of the CTE program approval process or Perkins grant. Because of this, the Department is unaware of how many Local programs are operating in the State, the number of students enrolled, or any successes resulting from Local programs.

CTE Program Inefficiencies and Obstacles to Student Completion

Approved programs are arranged in a progressive sequence leading to a three-part technical assessment that a student can complete to receive an Endorsement. Although courses can be taken independently, a single CTE course does not provide students with the same benefit as successful completion of an Approved program. In the 2015-16 school year, Department records show 121,305 students in Grades 9–12 participated in at least one CTE course, including 41,227 students who took a CTE course related to an Approved program. Department records support that 29 percent (11,855 of 41,227) received an Endorsement.

Between the 2015-16 and 2018-19 school years, approximately one-third of a CTE classroom's capacity produced an Endorsed graduate, indicating Endorsements may be difficult to obtain or are not being sought by students. In addition, not all CTE classrooms are operating at capacity, resulting in a reduced number of students who are obtaining enhanced credentials or gaining industry-specific skills while in high school.

There is room for the Department, school districts, and BOCES to improve program efficiency and better promote the benefits that CTE programs offer. While every student's circumstances and future opportunities differ, we identified common barriers to CTE program access and completion, as discussed next.

Insufficient Promotion and Support

To maximize effectiveness and efficiency, school district administrators and guidance counselors must support and promote CTE programs. Our interviews identified that some school officials and guidance counselors lack the knowledge necessary to do so. We also found that some school counselors have become overwhelmed with addressing student emotional concerns and have larger-than-recommended student caseloads.

Interviews with administrators most responsible for CTE in their respective school district indicate that insufficient support at the district level may negatively impact CTE program success. Two school district CTE directors expressed concern regarding a lack of district support and adequate staff to administer their programs, including, in one case, no district guidance or succession plan to follow.

We also learned that BOCES and CTE programs are sometimes viewed as the pathway for students who struggle with traditional coursework. Our review found that districts are placing a higher percentage of special education students and students struggling with English Language Arts and Mathematics into CTE programs. According to the TAC, as much as 35 to 40 percent of the BOCES student population has special needs. However, because CTE programs include math and reading components, students struggling in these areas may have difficulty completing a CTE program. Additionally, CTE programs are sometimes viewed as not beneficial for college-bound students. While one CTE director we spoke with stated that she is working to overcome stigmas and explains to her students that CTE provides a path to a Regents Diploma, other counselors and school districts we interviewed continue to favor traditional academic models and guide students toward four-year colleges rather than CTE programs.

While Department regulations do not impose a particular student-to-counselor ratio, the American School Counselor Association states that large caseloads have been shown to inhibit student access and cites the recommended ratio for an acceptable caseload as no larger than 250 students per counselor. At several schools we visited, the ratio exceeded recommendations, or counselors did not have a full understanding of the CTE programs available. For example, at one Buffalo high school, each counselor advises about 325 students (about 30 percent more than recommended). At another school district, all four counselors we met with were unaware of the number and type of CTE programs available to their students. Further, some counselors could not articulate the importance of the Endorsement and others referred to it as a special sticker that students receive on their diploma.

A school guidance counselor's role is central to supporting student success through college and career exploration advisement. Large student-to-counselor ratios coupled with demands on counselors to address student crisis-management situations have reduced the time and resources available for academic advisement. As a result, the time and attention given to each student may be inadequate to ensure their academic needs are being met and class options such as CTE programming are introduced.

Cost Limitations

Cost is a common hurdle faced by school administrators who approve student participation in CTE programming at a BOCES. School districts must pay a per-student tuition rate charged by each BOCES. Each BOCES establishes its own tuition rate, which currently ranges from about \$7,400 to more than \$16,500 per student. School districts can be reimbursed for costs associated with sending

students to BOCES for CTE programming. However, as required by legislation, the Department sets the reimbursement rate based on Census data. As a result, wealthier “low needs” school districts receive a lower reimbursement rate than other school districts such as those classified as “rural high needs.”

Our analysis determined more than half of students who graduate with an Endorsement come from an average needs district. However, based on total graduates, a disproportionate percentage of students from districts with high reimbursement rates are receiving Endorsements as compared with students from districts with low reimbursement rates. In the 2018-19 school year, 137,126 high school students graduated in the State, with 8,747 (6 percent) earning an Endorsement (see Table 2). While schools classified as “rural high needs” represented only 7 percent of all graduates that year, they represented 19 percent of the student population who received an Endorsement. Conversely, “low needs” classified schools represented 22 percent of all graduates but only 8 percent of the students who graduated with an Endorsement. The disproportionate percentage of Endorsed graduates coming from districts with a high reimbursement rate suggests a potential relationship between higher reimbursement rates and successful CTE program completion.

Table 2 – School District Classification and Endorsed Graduates for 2018-19 School Year

| School District Classification | Total Graduates | Percent of Total Graduates | CTE Endorsed Graduates | Percent of CTE Endorsed Graduates |
|--------------------------------|-----------------|----------------------------|------------------------|-----------------------------------|
| Rural High Needs | 10,144 | 7% | 1,692 | 19% |
| Low Needs | 30,309 | 22 | 706 | 8 |
| Large City | 6,164 | 5 | 653 | 7 |
| Average Needs | 55,898 | 41 | 4,790 | 55 |
| Urban/Suburban/High Needs | 13,007 | 9 | 677 | 8 |
| N/A* | 20,559 | 15 | 229 | 3 |
| Charter School* | 1,045 | 1 | 0 | 0 |
| Totals | 137,126 | 100% | 8,747 | |

*We could not match N/A and charter schools to a needs classification.

Costs associated with CTE programs are not reimbursed to school districts until the year after they are incurred, which may further influence the number of students allowed to enroll. When school districts make a financial decision to offer CTE programs at the high school rather than utilizing a BOCES, it could have an unintended negative effect on BOCES’ ability to provide CTE programs to other component school districts and may also inhibit program expansion. At three of the six BOCES locations we visited (Capital Region, Nassau, and Southern Westchester), officials we spoke to said they felt that some of their component school districts may be limiting the number of students allowed to take CTE programs at BOCES.

While none of the school districts we surveyed claimed they would deny participation in CTE programs due to funding, some indicated a lottery-based system for selecting students, as the number of programs and class size are limiting factors. For example, Buffalo Public School District's lottery system involves eighth-grade students selecting and ranking the top five high schools they wish to attend. A counselor explained that the popular schools fill up early, and a student who does not get their first choice could be shut out of their second choice if that school fills all available slots with students who selected it as their first choice. As a result, some students have not been able to attend certain CTE programs because they are not offered at the high school the student was assigned to attend despite the fact that the Education Law states schools shall provide a student entry into a CTE program "commensurate with the interests and capabilities of those desiring and having a need for preparatory training, retraining or upgrading for employment." Further, the Department has not updated relevant CTE regulations in at least 13 years, and according to Department officials, current laws/regulations that pertain to CTE are outdated.

Scheduling and Other Logistical Restrictions

The majority of school districts we visited (71 percent) mentioned scheduling and other logistics as potential barriers to CTE program enrollment and retention. In addition, officials at 35 percent of schools and BOCES we visited (8 of 23) stated students should be exposed to or start receiving CTE instruction earlier in their education, which can help keep students engaged and alleviate scheduling issues.

The Department's CTE Office has not established any requirements or issued guidance to address scheduling barriers for students trying to meet all Department educational requirements while also accommodating CTE program courses. For example, students who fail a required Regents exam often need to take an extra course and, as a result, are unable to fit all required CTE program courses into their schedule. Similar scheduling issues can arise for students who are excelling in their coursework. An administrator from the Levittown Union Free School District stated that Advanced Placement (AP) students usually don't take CTE programs, while the City School District of Albany CTE director claimed that students may want to take CTE and AP courses, but scheduling will not allow both.

Another barrier to CTE program enrollment and completion is travel time and distance (see Exhibit C). For example, officials at Gloversville Enlarged School District stated that travel time to the Hamilton-Fulton-Montgomery BOCES is equivalent to the length of a class period. Further, in some instances, the travel time to get to a BOCES location to participate in an Approved program can exceed 45 minutes one way, significantly affecting a student's schedule and course selections.

Education Law states that the board of education of each school district shall provide secondary school pupils access to programs of career education, and the Commissioner's Regulations state that all public school districts shall offer students the opportunity to begin an Approved CTE sequence in Grade 9. Nevertheless, while some CTE programs offered by school districts may allow students to begin the

program in the ninth grade, BOCES CTE programs typically do not allow enrollment until a student's junior year of high school. CTE programs inherently focus on specific areas of study related to the working world, and for those students at risk of dropping out of high school, these programs can allow them to visualize a link between secondary education, post-secondary education, and an occupational entry point. The 11th grade may be too late for them to become engaged with their education in an area of interest and graduate high school with their peers.

Obstacles to Securing Certified Teachers

The majority of locations (78 percent) we visited indicated that attracting, hiring, and retaining certified teachers with industry experience to instruct CTE programs is impeded by a prolonged certification application process, inadequate salaries, and stringent educational requirements. As a result, schools and BOCES may be unable to offer CTE programs or programs may be taught by teachers who are not best suited.

Education Law requires that CTE programs be delivered by a teacher who has obtained a Department-issued CTE certificate in the content area of the specific subject to be taught. As such, the Department will not grant its approval for a program to operate unless the application indicates that a certified CTE teacher will teach the program. CTE teaching certificate requirements place an emphasis on occupational work experience and related education in the subject area of the certificate. According to a TAC representative, it can take the Department more than seven months to assess a certification application and determine whether the applicant meets Department qualifications.

Another major deterrent to becoming a CTE teacher is salary. For example, according to DOL statistics, the annual average salary of a plumber is \$65,163, yet the amount the Department reimburses a district or BOCES for any CTE teacher is currently capped at \$30,000. Although a school district or BOCES may pay a higher salary, it is responsible for funding beyond the reimbursement cap.

In addition to salary concerns, industry professionals may have to obtain additional education required by the Department – and incur the related expenses – before obtaining a professional teaching certificate. One district official stated they do not subsidize the costs related to obtaining a CTE certificate due to the risk that, after receiving the certification, the instructor may decide to teach elsewhere. As a result, unless a BOCES or school district makes other arrangements, individuals seeking a teaching certificate are responsible for any out-of-pocket expenses associated with becoming a CTE teacher.

Lack of Standardization

Articulation agreements are contracts between institutions that recognize credits toward a certification, apprenticeship, or college degree. These types of agreements are established to benefit students, for example, by allowing a high school student to earn college credit while simultaneously fulfilling high school credit requirements.

Despite standard Department requirements and approval processes, Approved program course curriculum and articulation agreements with post-secondary programs are not developed using a centralized approach. Consequently, the process involves inefficient and overlapping efforts and increased costs for both the CTE program provider and colleges. The Department has not allocated sufficient resources to develop or assist schools and BOCES in developing standardized articulation agreements. Further, there is no single CTE curriculum for comparable programs at different locations and, as a result, different standards may be required depending on the school district or BOCES where the student takes the CTE program.

The Department requires that all Approved programs have at least one post-secondary articulation agreement for each of its CTE programs; however, no similar Department requirement applies to Local programs. According to the Hamilton-Fulton-Montgomery BOCES CTE director, CTE programs award inconsistent college credits. For example, under the criminal justice CTE program at one BOCES, one community college allows six college credits for the courses taken, whereas another allows only three. For a criminal justice program at a different BOCES, those same colleges may allow for yet a different number of credits. These inconsistencies diminish some students' ability to earn college credit or advanced standing while still in high school. Further, a too narrowly tailored CTE program curriculum can limit the transferability of credit between colleges and may not help decrease continuing education costs or shorten time spent in college. Additionally, single articulation agreements have limited the growth in the number and quality of career pathways available, and these program-level agreements are not durable and can be discontinued with changes in administrators.

The New York State learning standards were developed to ensure that all students achieve a high level of knowledge and the ability to apply that knowledge in real-world situations. In accordance with these standards, Approved programs incorporate a three-part assessment, consisting of a written examination (also referred to as a technical assessment), a project, and a demonstration of technical skills designed to measure a student's acquisition of technical skills and knowledge.

The Department does not recommend specific technical assessments; rather, these decisions are left to the discretion of the individual CTE program provider. Technical assessments given by some CTE programs do not always align with widely accepted industry skills assessments or industry-recognized credentials needed by employers in the labor market. For example, while the collision (auto body) repair industry widely recognizes Inter-Industry Conference on Auto Collision Repair certifications as the measurement of skills and knowledge required in that field, CTE programs can opt to use the National Occupational Competency Testing Institute (NOCTI) assessment instead, which the collision industry does not widely recognize. Department officials explained that assessments such as the NOCTI are cheaper than industry-recognized exams/certifications and are designed for educational use, but understand that they may not always be as valued as an industry-recognized certification.

Based on Department data, of the 11,187 assessments recorded during the 2018-19 school year, 2,726 (24 percent) showed a failed attempt at passing an assessment exam. The Department pointed toward “instructional level concerns” as the cause for the failures, such as CTE teachers who may not be teaching the material required to pass the exam. Although it is unclear whether these students are gaining the requisite industry experience and knowledge, it is clear they won’t be able to receive an Endorsement and, in some cases, may not be able to graduate if they do not pass the assessment.

Although the Department indicated that it intends to explore standardized curriculums and regional articulation agreements in more depth, given the current CTE Office resources and other requirements, it’s unlikely the Department will be able to address these areas effectively.

Data Issues

School districts are required to submit data to the Department related to student participation, technical assessments, diploma type granted, and whether diplomas contain an Endorsement. We uncovered issues with the data reported by school districts to the Department.

For example, while Department records reflect 32,463 students graduated with an Endorsement in school years 2015-16 through 2018-19, they do not support whether 40 percent (12,893 of 32,463) of those students passed the required technical assessment needed to receive the Endorsement. Department records for the 2018-19 school year show 8,747 students graduated with an Endorsement, yet the corresponding CTE program and assessment records only support that 5,806 (66 percent) of these students passed the required technical assessment.

During our site visits, we found the Buffalo Public School District was not following the Department’s requirements to ensure student records reflect whether they have earned an Endorsement. According to school district officials, if a student does not pass the technical assessment but meets all other district-established requirements, the student will receive a diploma that indicates the student passed with CTE, but does not receive the Endorsement sticker on their diploma. This contradicts Department requirements that diplomas only be coded with CTE if the students meet all Approved program requirements.

The Corning-Painted Post Area School District also generally did not record students who earned an Endorsement in its student information management system, despite having claimed students had earned and were issued an Endorsement. Our analysis found 98 students graduated from that district and passed the technical assessment and, therefore, may have been eligible to receive an Endorsement. However, because our analysis was limited to the incomplete data provided to the Department, we are unable to verify or conclude the exact number of students who earned and received an Endorsement at that school district.

As a result of misapplication and improper coding, the Department is unable to accurately determine the number of Endorsed graduates each year and does not have assurance that students have met the academic and industry standards of the respective CTE program for which they received an Endorsement. Given the data inconsistencies we identified, it is apparent that district officials responsible for recording CTE-related student data are either confused about or are simply not following Department requirements and guidelines. For information to be relevant and useful for decision-making purposes, it must be current, complete, accurate, and accessible, and must come from reliable sources. There is an increased risk that data inaccuracies will hinder the Department's ability to make informed CTE programming decisions.

Recommendations

1. Ensure Approved and Local programs, as well as student enrollments, align with State workforce needs and meet the career goals of secondary school students.
2. Take the steps necessary to monitor CTE program-level performance as well as the accuracy and consistency of data submitted by school districts and BOCES.
3. Assess whether the funding provided for CTE-related activities (e.g., program operations, tuition reimbursement, salary reimbursement) is sufficient to support high-quality CTE programs.
4. Work with schools to ensure they are adequately promoting, supporting, and teaching CTE programs.
5. Review and update CTE regulations as necessary to ensure they align with Education Law and address current CTE needs in the State.
6. Work with schools and BOCES to standardize CTE curriculum and articulation agreements to ensure they benefit students and align with industry needs.
7. Provide additional guidance to schools, school districts, and BOCES regarding the application of CTE program requirements to ensure there is a clear and consistent process to record and report accurate CTE-related information.

Audit Scope, Objectives, and Methodology

The objectives of our audit were to determine whether the Department's current CTE activities are sufficient to meet high-demand, high-growth, and high-salary job market needs; and what the Department, school districts, and BOCES can do to enhance their CTE programs. The audit covered the 2015-16 through 2018-19 school years and additional information through January 9, 2020.

To achieve our audit objectives and assess related internal controls, we reviewed relevant State laws and regulations. We also reviewed various Department policies and procedures that relate to CTE, including: program approval, diploma coding, certified CTE teacher requirements, and Perkins Act requirements. We met with Department personnel to obtain an understanding of their CTE practices and to determine the availability of relevant data. We also selected a judgmental sample of 17 school districts and 6 BOCES (of 732 school districts and 37 BOCES) for a total sample of 23 based on factors such as size, geographic location, school accountability status, and number of Approved programs (identified in Exhibit D). Our sample was not designed to be, and cannot be, projected to the population as a whole. Further, our scope was limited to schools and BOCES outside of NYC. Our sample was selected so that we could meet with officials at various school districts and BOCES locations to gain an understanding of their role in CTE and insight as to how CTE was functioning within their respective school district and BOCES and to observe facilities where CTE programs were held.

For federal reporting purposes, the Department measures CTE success as the extent to which students have gained employment, joined the military, or enrolled in post-secondary education. Our audit focused on the employment facet and the correlation between the State's secondary school CTE programs and the State's labor market needs. While we observed both Approved and Local programs during site visits, our analysis of data was limited to Approved programs because the Department does not approve, track, or otherwise collect complete data records related to the operation of Local programs.

Additionally, we reviewed the Department's available CTE data to determine the number of students enrolled in all CTE programs and Approved programs in particular, the number of students who graduated with Endorsements, and the number of times the technical assessment was passed. We also assessed the data to determine its reliability and accuracy. Overall, we determined the data to be reliable for purposes of our audit objectives, but, as indicated within the report, we identified various issues with data quality and cohesiveness.

As part of our audit procedures, the audit team used Geographic Information Systems (GIS) software for geographic analysis. As part of the geographic analysis, we developed visualizations (see Exhibits A and C) to improve the understanding of our report. To improve ease of use, some minor locational changes were made in these visualizations. The changes do not materially affect the accuracy or interpretation of the underlying data or visualization.

We also used GIS tools to determine the approximate time to travel from each facility following the designated speed limit. This analysis used the New York State Streets

data made available by the New York State Geographic Program Office (the streets data used for this analysis was from 2016). This analysis does not take into account traffic conditions or other variables such as time of day, construction, or special restrictions.

We compared Approved programs (as of January 9, 2020) and available student enrollment data from school years 2015-16 through 2018-19 with aspects of the 2016-2026 DOL Long-Term Occupational Projections. To analyze whether CTE programs are aligned with high-demand, high-salary, or high-growth occupations, we cross-referenced the population of 1,021 Approved program Classification of Instructional Programs (CIP) codes with the Standard Occupation Classification (SOC) codes for the 660 State occupations, and found the Approved programs reasonably aligned with 114 occupations' SOC codes. For the remaining 546 occupations' SOC codes, either they did not directly match to an Approved program's CIP code or we had already matched the Approved program's CIP code to a different, but possibly similar, SOC code. For the purposes of our analysis, we linked one CIP code/Approved program to only one SOC code/occupation. Furthermore, our analysis of the 47,160 students who Department records showed were enrolled in Approved programs during the 2018-19 school year found that the CTE program CIP code entered into the system for 1,912 students did not match any of the Department's CTE programs, and the Youth Apprenticeship CTE program's 20 students could not be aligned to an SOC code/occupation. We therefore limited our analysis to the 45,228 students with a CTE program CIP code that matched an occupation SOC code. We used DOL and O*NET (developed under the sponsorship of the U.S. Department of Labor/Employment and Training Administration) online data to determine the thresholds for high salary, high growth, and high demand. We did not test the reliability or accuracy of the DOL data, O*NET online data, or cross-reference tables because the data was publicly available, and, as such, we indicate this as a data limitation.

Statutory Requirements

Authority

The audit was performed pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law.

We conducted our 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.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions, and public authorities, some of whom have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

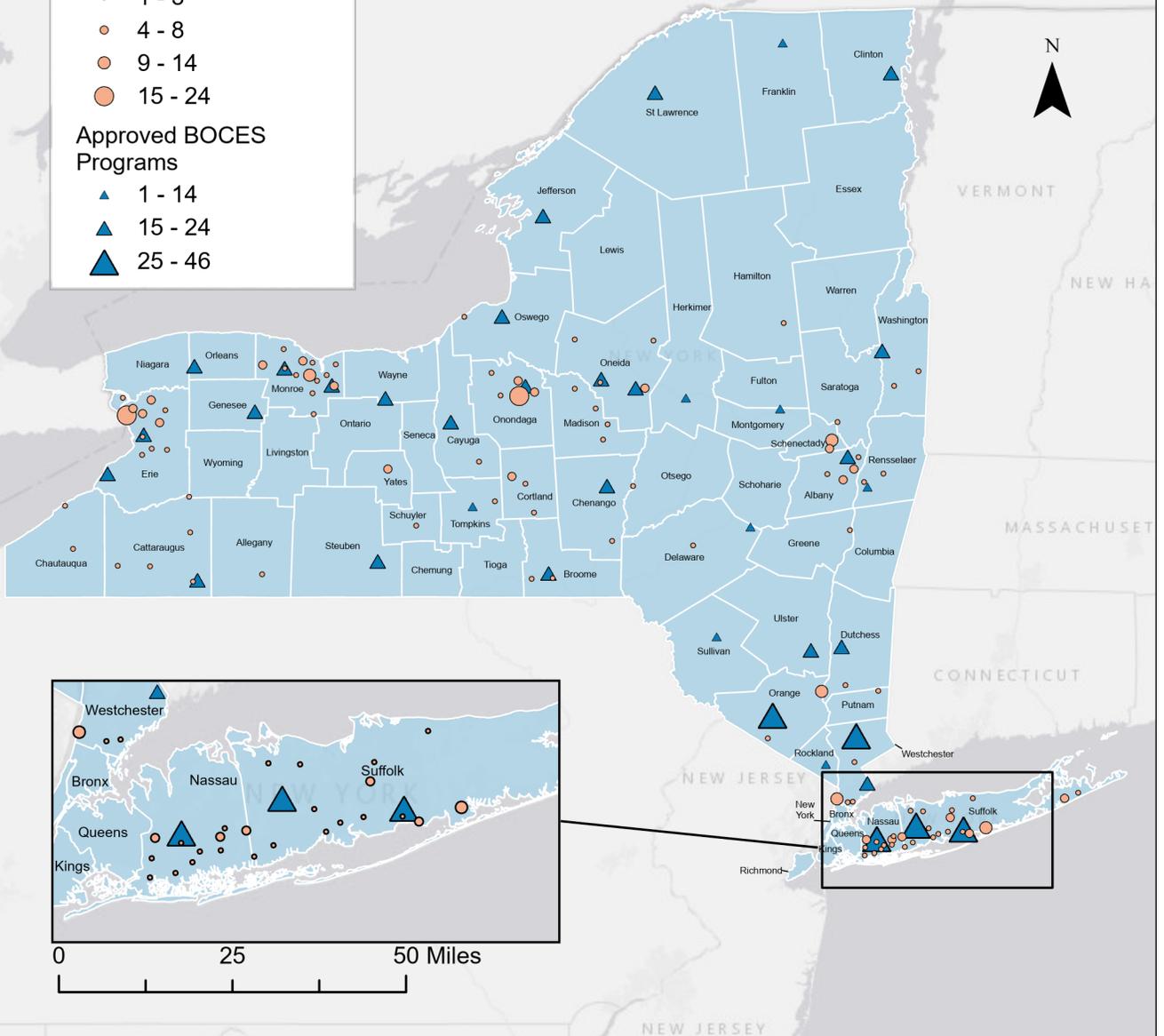
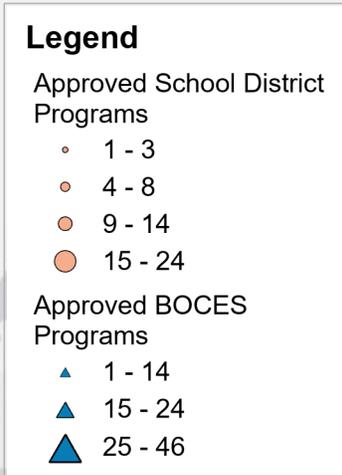
Reporting Requirements

A draft copy of the report was provided to Department officials for their review and comment. Their comments were considered in preparing this final report and are attached in their entirety to the end of it, along with our own State Comptroller's Comments addressing certain Department statements. In their response, Department officials generally disagreed with our findings and conclusions. Our State Comptroller's Comments address certain Department remarks, as well as inaccuracies and other issues, and are embedded within the Department's response.

Within 180 days after final release of this report, as required by Section 170 of the Executive Law, the Commissioner of the State Education Department shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons why.

Exhibit A

Approved CTE Program Providers and Number of Approved Programs Offered*



*This data excludes New York City counties including Bronx, Kings, Queens, Richmond, and New York.
Esri, HERE, NPS

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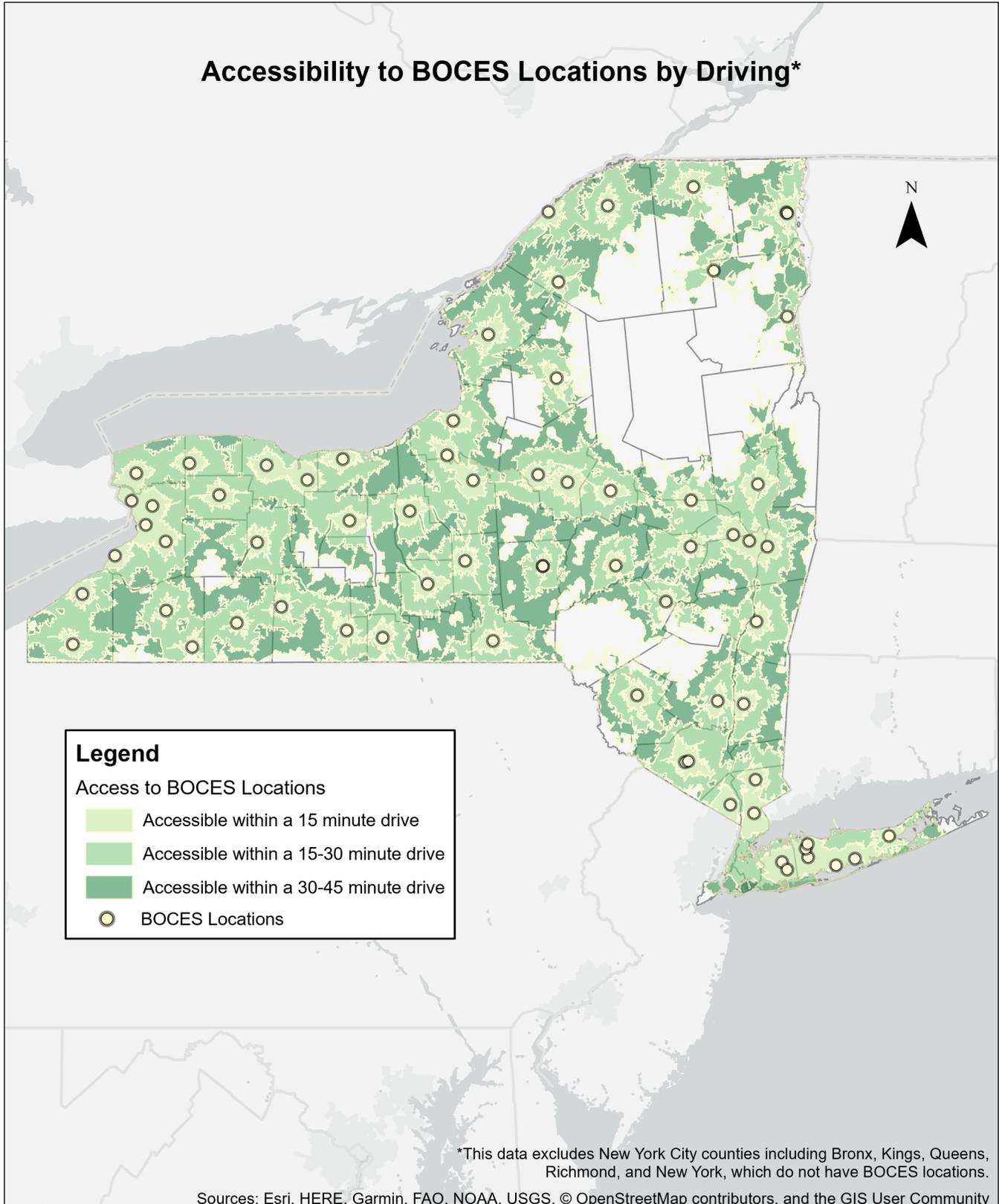
Exhibit B

Occupational Alignment for Approved Programs With Highest Student Enrollment

| Occupation | Number of Approved Programs | 2018-19 Approved Program Student Enrollment | Annual Average Salary | 10-Year Growth Rate | Average Annual Openings |
|--|-----------------------------|---|-----------------------|---------------------|-------------------------|
| Hairdressers, Hairstylists, and Cosmetologists | 49 | 4,201 | \$29,841 | 15.59% | 3,575 |
| Chefs and Head Cooks | 56 | 3,878 | \$53,791 | 19.07% | 1,197 |
| Automotive Service Technicians and Mechanics | 58 | 3,630 | \$41,921 | 5.54% | 2,995 |
| General and Operations Managers | 31 | 2,365 | \$124,198 | 12.13% | 8,552 |
| Medical and Health Services Managers | 36 | 2,357 | \$127,890 | 22.51% | 1,607 |
| Detectives and Criminal Investigators | 29 | 1,949 | \$91,366 | 8.17% | 425 |
| Welders, Cutters, Solderers, and Brazers | 35 | 1,711 | \$46,179 | 7.04% | 894 |
| Engineers, All Other | 20 | 1,264 | \$95,010 | 4.55% | 127 |
| Electricians | 28 | 1,248 | \$63,583 | 11.12% | 2,795 |
| Carpenters | 31 | 1,224 | \$52,270 | 8.16% | 4424 |
| Managers, All Other | 17 | 1,216 | \$96,866 | 7.99% | 1,411 |
| Automotive Body and Related Repairers | 33 | 1,096 | \$ 45,394 | 8.83% | 663 |
| Graphic Designers | 31 | 1,043 | \$49,512 | 4.09% | 856 |
| Childcare Workers | 27 | 894 | \$27,442 | 4.27% | 6,555 |
| Electrical and Electronics Engineering Technicians | 13 | 848 | \$61,103 | 7.51% | 435 |

Shading denotes meeting or exceeding high salary, growth, or demand.

Exhibit C



Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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Exhibit D

Site Visits

| | County | Number of CTE Programs as of 1/9/2020 | Number of Students in a CTE Program in 2018-19 |
|---|-------------|---------------------------------------|--|
| Schools Districts Visited Offering CTE Programs | | | |
| Albany City School District | Albany | 8 | 485 |
| Buffalo Public School District | Erie | 21 | 3,475 |
| Harborfields Central School District | Suffolk | 1 | 17 |
| Levittown Union Free School District | Nassau | 7 | 192 |
| Mount Vernon City School District | Westchester | 4 | 73 |
| Rochester City School District | Monroe | 14 | 606 |
| Sachem Central School District | Suffolk | 3 | 286 |
| Sewanhaka Central High School District | Nassau | 6 | 48 |
| William Floyd School District | Suffolk | 12 | 1,533 |
| Yonkers Public School District | Westchester | 11 | 569 |
| School Districts Visited With No CTE Programs; Students Attend a BOCES | | | |
| Charlotte Valley Central School District | Delaware | | 15 |
| Corning-Painted Post Area School District | Steuben | | 159 |
| Fallsburg Central School District | Sullivan | | 39 |
| Gloversville Enlarged School District | Fulton | | 40 |
| Indian River Central School District | Jefferson | | 100 |
| Saratoga Springs City School District | Saratoga | | 133 |
| Watertown City School District | Jefferson | | 156 |
| BOCES Locations Visited | | | |
| Capital District BOCES | Albany | 22 | |
| Eastern Suffolk BOCES | Suffolk | 27 | |
| Hamilton-Fulton-Montgomery BOCES | Fulton | 11 | |
| Nassau BOCES | Nassau | 28 | |
| Putnam Northern Westchester BOCES | Westchester | 46 | |
| Southern Westchester BOCES | Westchester | 21 | |
| Totals | | 242 | 7,926 |

Agency Comments and State Comptroller's Comments



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

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October 27, 2020

Mr. Mark Ren
Audit Director
Office of the State Comptroller
110 State Street
Albany, NY 12236

Dear Mr. Ren:

The New York State Education Department (NYSED) is appreciative of the opportunity to provide comments to the Office of the State Comptroller (OSC) regarding their audit of the New York State Education Department's Oversight of Career and Technical Education Programs in New York State Schools (2019-S-29). There are a few points that the Department would like to bring to your attention prior to your finalizing the draft audit report, as follows:

Objectives

OSC defines an audit objective that does not measure the success of CTE at the secondary level as it is delivered in New York State. The auditors' objective, "to determine whether current State Education Department career and technical education activities are sufficient to meet high-demand, high-growth, and high-salary job market needs," articulates the first in a series of audit assumptions that do not apply to CTE at the high school level. CTE at the high school level serves students in a number of ways. It provides:

- a graduation pathway driven by student interest;
- a modality of learning academics that is based in problem posing and problem solving;
- an opportunity to explore career areas; and
- a chance to learn technical skills that may be used in an entry-level job.

State Comptroller's Comment 1 – We disagree with the Department's statement that the audit objective does not measure the success of CTE at the secondary level. As mentioned on page 10 of the audit report, Education Law states the board of education for each school district shall develop realistic programs in accord with labor needs in existing and emerging occupations for present and projected employment opportunities. High-demand, high-growth, and high-salary job market needs are a good indicator for determining existing and emerging occupations for present and projected employment opportunities.

High school CTE programs are designed to foster student development. NYSED's secondary-level CTE programs prepare students for success in future careers by introducing them to workplace competencies through hands-on learning. The activities involved in introducing students to workplace competencies include practicing a range of skills useful in future studies or careers. While CTE programs deliver instruction in technical skills, they are not job-training programs designed to position students to enter a specific occupational title upon graduation. Instead, CTE programs use technical skill instruction as a vehicle to teach students to become independent learners. Students enrolled in high school CTE remain engaged in their educational program, learn how to learn, meet the requirements for graduation, and are prepared for the next step of their educational continuum—be it employment, postsecondary training or education, or military service.

State Comptroller's Comment 2 – The Department's assertion that CTE programs are not job-training programs designed to position students to enter a specific occupational title upon graduation is in direct contrast with the Department's Guidelines for CTE programs. The Guidelines state the elements of an effective CTE program include a sequence of courses that prepare students for employment or post-secondary study, a work-based learning opportunity, an opportunity to apply academic concepts to real-world situations, preparation for industry standards-based student assessments, and an opportunity to use the most current business/industry-based technologies.

As the COVID-19 pandemic makes clear, workers in many economic sectors must have the ability to adapt to rapid changes in the labor market. Many high-demand, high-growth, and/or high-salary occupations immediately available to 2019 high school graduates have experienced disruptions that may result in permanent job losses. Between February 2020 and April 2020, the employment landscape changed drastically (e.g., hospitality and tourism related employment was down 48%, construction related down 13%, and manufacturing down 11%).¹ The rate of change highlights the importance of defining success for CTE programs not in terms of filling vacancies in the current labor market,² but in terms of how well they prepare students to continue learning skills that

¹ Dvorkin, M. (2020), Which Jobs Have Been Hit Hardest by COVID-19? St. Louis, MO, Federal Reserve Bank of St. Louis. Retrieved 10/6/2020 from <https://www.stlouisfed.org/publications/regional-economist/third-quarter-2020/jobs-hit-hardest-covid-19>.

² See, the McKinsey Institute's "[Thriving after COVID-19: What skills do employees need?](#)" for a discussion of four

connect them to career options.

OSC's evaluation, however, relies on a benchmark that is related to job placement, not student growth. Judging programs through the lens of how well they align with high-demand, high-growth, and high-salary positions does little to further our understanding of the value of secondary CTE. This benchmark is more appropriately used in an analysis of postsecondary CTE programs—those that provide the credentialing that most employers are seeking.

State Comptroller's Comment 3 – As mentioned on page 20 of the audit report, for federal reporting purposes, the Department measures CTE success as the extent to which students have gained employment, joined the military, or enrolled in post-secondary education. Our audit focused on the employment facet and the correlation between the State's secondary school CTE programs and the State's labor market needs. Furthermore, while many economic sectors currently face challenges, the DOL labor statistics offer a reliable and current source of labor market data upon which to base decisions.

The role of CTE at the secondary level has been debated for many decades. Most education historians point to the Smith Hughes Act of 1917, which began federal funding for vocational education in secondary and postsecondary school settings.³ The OSC report presupposes that the role of high school CTE is to prepare workers for jobs, a popular view from Smith-Hughes until the 1980s and the passage of the Perkins Act, which began the transition from occupational specific vocational education based in the trades to a broader career and technical education focused equally on a triad of skills: academic, technical and metacognitive skills needed to succeed in any career. CTE began to give students a higher altitude view of career options while building in the acquisition of all three skill sets. While there was still some overlap between job training and career and technical education, the two modalities began to diverge in focus.⁴

Given this significant evolution in the goals of high school CTE, an analysis whose stated goal is to ascertain alignment with occupational titles judges these programs by benchmarks they have not been developed to meet. There is a difference between student development and workforce development. Our work as educators is to meet student needs, one of which is to learn how to function successfully in the world of work. Current workforce needs can dissolve quickly. Projecting workforce trends is inexact. The Bureau of Labor Statistics regularly analyzes the accuracy of their projections.⁵ The New

priority skill sets: digital, cognitive, social and emotional, and adaptability and resilience.

³ Hodge, E., Dougherty, S., & Burris, C. (2020). *Tracking and the Future of Career and Technical Education: How Efforts to Connect School and Work Can Avoid the Past Mistakes of Vocational Education*. Boulder, CO: National Education Policy Center. Retrieved 9/11/20 from <http://nepc.colorado.edu/publication/cte>.

⁴ *Ibid*, p.9

⁵ The U.S. Bureau of Labor Statistics evaluates their 10-year labor market projections. From 2008-2018 projections for the average growth or decline of occupations were correct 78 percent of the time; for occupations projected to

York State Department of Labor, however, does not.⁶ OSC's position depends on the validity of occupational projections that are never reviewed retrospectively for accuracy. The NYSDOL data referenced in OSC's report, therefore, may or may not be useful for job placement planning. The lack of clarity in occupational outlook plays out in a number of ways. While the NYSDOL data is still a useful reference point, it does not drive the contemporary approach to CTE today. The main driver of CTE programs looks beyond the short-termism of job training and, instead, offers programs of study that promote life-long learning.

State Comptroller's Comment 4 – Department officials state there is a difference between student development and workforce development, yet their own Department CTE Guidelines state “The high school years offer academic, developmental and social experiences that can prepare students with readiness skills in three areas: College Readiness, Career Readiness and Life Skills.” Moreover, career readiness is defined by the Department as where “the student demonstrates employability and technical skills that allow him or her to be successful on the first day of work in an appropriate entry-level position.”

We are puzzled by the Department's questioning of the validity and our use of DOL data. The Department's own CTE website guides students to create their career plans using the “My Portfolio” tool and data from the DOL.

Facts that define the purview of the Office of Career and Technical Education

The OSC report points out that New York State Education Law requires that the “board of education for each school district shall provide secondary school pupils and adults access to programs of career education.”⁷ This is precisely the point. Each school district, not NYSED, determines the CTE programming for their students. Throughout the report, OSC provides suggestions that do not recognize the limits of state authority. The discussion of “local programs” [pages 10-12] ignores that the programs are, in all ways, local. The term “local program” lacks a single definition because local programs are defined locally. State and federal regulations do not require districts to report on small academic learning communities they may choose to operate. Similarly, there are no state or federal reporting requirements for districts to report enrollment or performance data on local CTE programs. Throughout the report, OSC's analysis of NYSED's oversight activities fails to acknowledge the basic facts of local control. OSC's logic does not

grow faster than the economy, BLS was correct 52 percent of the time. See, <https://www.bls.gov/emp/evaluations/2008-2018-occupational.htm>.

⁶ Email to NYSDOL analyst requesting a state-level report similar to the federal study cited above, the reply: “NYSDOL provides occupational projections, both short- and long-term, for each of the 10 labor market regions and statewide. They can be found at <https://labor.ny.gov/stats/lproj.shtm>. However, we don't provide evaluation, like USDOL does.”

⁷ Office of State Comptroller; Oversight of Career and Technical Education Programs in New York State Schools: State Education Department, Report 2019-S-29, p.10.

incorporate this defining consideration, and therefore argues for state supervision where there are no legal grounds for it.

State Comptroller's Comment 5 – While each school district determines the CTE programming for its students, as mentioned on page 6 of our audit report, the Department is charged with the general management and supervision of all public schools and educational work of the State, according to Education Law Title 1, Article 3, Part 1, Section 101. Furthermore, the Department designated itself as the administrative entity for secondary, post-secondary, and adult career and technical education as part of the Perkins Plan.

Although Department officials maintain there are no State or federal requirements for districts to report enrollment or performance data on Local CTE programs, the Department's SIRS manual states "The CTE data collected in SIRS are governed by federal mandates" as some CTE programming receives federal Perkins funding. During our audit scope period, the Department further instructed in the SIRS manual that "CTE reporting requirements are the same for all schools whether or not they use Perkins funding directly." However, following our scope period, the Department further limited its oversight ability when it issued a new policy instructing schools to no longer report Local programs and to report solely on Approved programs as of the 2019-20 school year.

NYSED's Office of CTE oversees the administration of federal Perkins grants that support local CTE programming. There are state and federal restrictions governing the use of these funds. Under Perkins V, New York decided to direct funds to NYSED-approved CTE programs only as the approval process is the only way to ensure programs align with the federal definition of program of study. Approved programs and approved programs seeking Perkins funding are the only ones subject to NYSED oversight. These are the only programs obligated to comply with standards that underpin eligibility for CTE program approval and receipt of Perkins funds. Outside of grant and program approval activities, the CTE office is responsible for providing the field technical assistance that is based on content expertise of staff, not regulatory authority.

Failure to acknowledge that the scope of the CTE office's work is determined by the two main application processes (e.g., Perkins grants and NYSED CTE program approval), leads auditors to conclusions about matters that are under local control. For example, New York's locally controlled secondary educational structure does not allow NYSED to dictate the type of CTE programs to offer. It does not require localities to pursue CTE program approval from the state or to apply for federal Perkins grant funds. Therefore, the degree of alignment to occupational vacancies—if that were the correct metric to measure secondary programs—is driven by local decisions about CTE programming for the district's students.

State Comptroller's Comment 6 – As explained in Comment 5, while each school district determines the CTE programming for its students, the Department is charged

with the general management and supervision of all public schools and educational work of the State, and serves as the administrative entity for secondary, post-secondary, and adult career and technical education.

The OSC review of NYSED CTE office's oversight activities begins with incorrect assumptions and provides anecdotal arguments containing added inaccuracies or faulty logic to support its position. The report relies on assertions that are not supported with research or data. Examples of this include:

- “half of all jobs in science, technology, engineering, and math industries require candidates with less than a bachelor's degree, while more than 80 percent of manufacturers report that talent shortages affect their ability to meet customer demand” (p.6);
- “inconsistent program requirements, and insufficient program support by officials also inhibit student enrollment and retention and the overall success of CTE programs. As a result, the number of students learning industry-specific skills through CTE programs is adversely impacted, ultimately contributing to the lack of available skilled employees in certain industries” (p.9); and
- “Inadequate oversight creates an increased possibility of gaps in CTE program content delivery and allows the operation of programs that fail to equip students with the knowledge and skills sought by employers” (p.11).

State Comptroller's Comment 7 – OSC's findings are supported with research and data, including information from the Association for Career and Technical Education and discussions with BOCES staff, CTE school administrators, and Department officials. As stated on page 22 of our report, we conducted our 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.

No factual support is provided. No reference for the source of the “80 percent of manufacturers” reporting talent shortages is provided. Even with a full citation, employer reports of labor shortages may not be free from influence of self-interest.⁸ That high school students may lack industry-specific skills does not prove anything about the lack of skilled employees in certain industries. What authority would empower a state agency to direct locally controlled districts to deliver specific programming? The report's logic does not carry the weight of its conclusions.

⁸ See Osland, C. (2016) Which industries need workers? Exploring differences in labor market activity. U.S. Bureau of Labor Statistics, Washington, D.C. Accessed 10/8/2020, at <https://www.bls.gov/opub/mlr/2016/article/which-industries-need-workers-exploring-differences-in-labor-market-activity.htm> for a discussion of the variables used to determine job openings and labor turnover in various industries.

State Comptroller's Comment 8 – According to the Association for Career and Technical Education, a national education association, more than 80 percent of manufacturers report that talent shortages affect their ability to meet customer demand. Furthermore, our audit recommends that the Department ensure that Approved and Local programs, as well as student enrollments, align with State workforce needs and meet the career goals of secondary school students, not that they direct locally controlled districts to deliver specific programming. Moreover, through the CTE program approval process, the Department does have the authority to deny or approve CTE program applications. Additionally, as part of the application process, the locally controlled districts are required to describe how current labor market data has informed program design and choice of technical assessment.

Failure to understand basic realities of the state's role in education skews their assessment of NYSED's oversight activities throughout the report. Absent in the report is that that districts, not the state, determine curricular form and content. The state sets the learning standards that broadly define what students should know and be able to do. The report's numerous suggestions the state has a role in determining the content or method of instruction sets up criteria for evaluation that simply does not apply to how state education law defines the role of NYSED. This is seen in report conclusions that are simply false. Here are several examples:

1. *"Further, there is no single CTE curriculum for comparable programs at different locations, and, as a result, different standards may be required depending on the school district or BOCES where the student takes the CTE program" (p.17).*

The report puts this idea forth to designate a state oversight deficiency. In reality, this is a description of the normal operation of a local controlled education system.

State Comptroller's Comment 9 – We are puzzled by the Department's response and its assertion that this statement is false. As noted on page 18 of our audit report, the Department indicated that it intends to explore standardized curriculums and regional articulation agreements in more depth. The Department references the lack of a common CTE curriculum in its own Perkins Plan, stating that meetings with CTE organizations generally included requests for tools, content framework, or templates to standardize program delivery statewide. Interviews with school districts and BOCES officials brought to our attention the concern that different standards may be required depending on where the student takes the CTE program and that the benefit realized by the student may differ as a result.

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2. “[NYSED’s] oversight activities are insufficient for assessing how both Approved and Local programs are performing in regard to successful student outcomes and industry alignment” (p.11)

Districts and BOCES delivering approved programs, in fact, are assessed each year in performance reports tracking pass rates on the English, math, and science Regents exams and four-year graduation rates. Those applying for Perkins are reviewed annually in how well programs meet state targets for performance in these measures. Each application for program approval or reapproval contains an assessment of program alignment to the labor market. Each application contains a more important component that shows a program’s approach to fostering the development of technical and metacognitive (aka employability, 21st century) skills.

State Comptroller’s Comment 10 – As previously mentioned in Comment 5, the Department further limited its oversight ability when it issued a new policy instructing schools to no longer report on Local programs and to report solely on Approved programs as of the 2019-20 school year. Furthermore, while fostering the development of technical and metacognitive skills is important, the goals of aligning CTE programs with labor market demand should not be ignored.

3. *“The Department also stated CTE programs serve multiple purposes, several of which they consider above labor market alignment. These considerations include creating a student interest-driven pathway to graduation to keep at-risk students from dropping out and providing students with opportunities to apply academic concepts to real-world situations. However, Department officials failed to explain why CTE programs could not address these considerations and still provide students with skills suited for an occupation with an optimistic growth, salary, and demand potential” (p. 11).*

NYSED’s definition of “suitable skills” diverges from OSC’s. Their definition of “skills suited for an occupation....” are the ephemeral technical competencies of today, but our definition prioritizes the durable metacognitive skills like problem solving, teamwork, and persistence.

State Comptroller’s Comment 11 – While the skills of problem solving, teamwork, and persistence are important for students to learn, that does not mean the goals of aligning CTE programs with labor market demand should be ignored.

Response to OSC’s Recommendations

The OSC recommendations (in bold) frequently presuppose conditions that are not applicable to how CTE is delivered in New York State. A brief reply from NYSED follows each recommendation.

1. Ensure Approved and Local programs, as well as student enrollments, align with State workforce needs and meet the career goals of secondary school students.

NYSED maintains that by allowing LEA and BOCES to offer programs that provide academic, technical, and 21st century skills that transverse all career fields, approved CTE programs will meet the State workforce needs and the career goals of secondary students. NYSED has no oversight regarding student enrollment other than to restrict Perkins funds to only those programs that meet adequate size requirements. Any efforts to ensure local programs (which may only be CTE courses and not full-fledged programs of study) align with State workforce needs and career goals will require an exponential expansion of the Office of CTE, which currently only has five CTE content associates and one CTE content assistant to provide CTE oversight to the entire state.

2. Take the steps necessary to monitor CTE program-level performance as well as the accuracy and consistency of data submitted by school districts and BOCES.

Under Perkins V, program-level monitoring continues through both the program reapproval process and review of the Comprehensive Local Needs Assessments conducted by Perkins recipients. Through both processes, NYSED is able to review the data submitted by LEA and BOCES to ensure consistency.

3. Assess whether the funding provided for CTE-related activities (e.g., program operations, tuition reimbursement, salary reimbursement) is sufficient to support high-quality CTE programs.

NYSED's Office of CTE has oversight of NYSED-approved programs, and Perkins subrecipients. Funding levels are not determined by NYSED. Consequently, an examination of issues related to reimbursement must focus on legislative decisions that determine these levels.

4. Work with schools to ensure they are adequately promoting, supporting, and teaching CTE programs.

NYSED continues to work with its CTE Technical Assistance Center (TAC) to ensure adequate promotion and support of CTE programs. NYSED content experts and TAC staff also help to support teaching within CTE programs.

5. Review and update CTE regulations as necessary to ensure alignment with Education Law and that they address current CTE needs in the State.

Review of CTE regulations has already begun within the Office of CTE; however, updates to CTE regulations will only occur after the Board of Regents completes its review of recommendations for any changes to graduation requirements made by the Graduation Measures Blue Ribbon Committee. This initiative began in 2019 but has been suspended until further notice due to the COVID-19 pandemic.

6. Work with schools and BOCES to standardize CTE curriculum and articulation agreements to ensure they benefit students and align with industry needs.

NYSED cannot standardize CTE curriculum across the state because the choice of curriculum is a local decision in New York. The Office of CTE will begin work on curricular frameworks to assist programs in choosing/developing curricula that align with CTE/CDOS standards. Additionally, the Office of CTE will explore building regional collaborations amongst secondary and postsecondary institutions and business/industry, grounded in labor market needs, to facilitate the development of regional programs of study, including regional articulation agreements.

7. Provide additional guidance to schools, school districts, and BOCES regarding the application of CTE program requirements to ensure there is a clear and consistent process to record and report accurate CTE-related information.

The Student Information Repository System (SIRS) manual has been updated to reflect all changes in CTE data reporting. District managers receive direct updates and clarification. The Office of CTE will work with the CTE TAC to develop and provide additional guidance through virtual meetings and resources posted to the CTE website and the TAC website.

Conclusion

Audits add value when they call out areas of concern and suggest actionable alternatives. When audits call out areas over which the auditee has no jurisdiction, the only response available is to clarify this fact. The OSC report flags issues of obvious concern over which the CTE office has no administrative authority to influence. In addition to local control of CTE programming cited above, other locally controlled domains impact the delivery of CTE. Examples include:

- the distribution of student enrollments across the career clusters (p.2);
- federal and state funding formula (p.14);
- district-level barriers to participation such as the supply of certified teachers, travel time to the BOCES technical centers, district master schedules (p.15); and
- student to counselor ratios (p.13).

State Comptroller's Comment 12 – We are disappointed the Department is unable or unwilling to find value in our audit and recommendations. As explained in Comment 5, the Department is charged with the general management and supervision of all public schools and educational work of the State and serves as the administrative entity for secondary, post-secondary, and adult career and technical education. Of further concern, while the Department collected Local CTE program data during our scope period, starting with the school year 2019-20, it has instructed these schools to no longer send this information, further limiting Department oversight abilities.

OSC defines their audit responsibilities as a means by which they “identify opportunities for improving operations.” What’s more, OSC suggests that their “audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.” Finally, they suggest that “This audit’s results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers.”⁹

Had the contents of the audit followed this intended mission, there may have been a basis upon which to take action for operational improvement. Instead, the audit articulated a status report based on an implicit philosophy of the goals of career and technical education. The OSC report covered ground ill-suited for the clearly stated mission of State Comptroller’s audits. Alignment of CTE programs to the labor market will not reduce costs—it would likely increase them. If accomplished, the alignment of CTE programs would not result in more effective operational controls. Alignment of high school content to serve transient labor market needs is unlikely to appear on the list of taxpayer expectations of their educational system. More likely, the list would address literacy, numeracy, metacognitive, and social skills students need to have developed on their way to high school graduation. Most of all, taxpayers expect students in high school to graduate.

State Comptroller’s Comment 13 – The objectives of this performance audit were “to determine whether current Department CTE activities are sufficient to meet high-demand, high-growth, and high-salary job market needs; and what the Department, school districts, and BOCES can do to enhance CTE programs.” As such, our report is more than a status report of the Department’s CTE program. Our report identifies significant areas for operational improvement (as stated in the cover letter to our report) to assist the Department in ensuring that students enrolled in CTE courses are successful in accomplishing its mission to “raise the knowledge, skill, and opportunity of all the people in New York.”

While there are other instances of logical disjunctions and questionable assumptions underpinning the report, dwelling on all of them distracts from the more important discussion. We would welcome audit findings that provide assistance in identifying improvement strategies in operational, fiscal, and administrative areas. The current auditors, however, do not concern themselves with this. Instead, they stake out the ground they believe CTE should inhabit. They define goals they believe CTE educators and NYSED should be pursuing. Examples include:

- “Department oversight should be improved to better align CTE programs with high-demand, high-growth, or high-salary occupations in New York State” (p.9);
- “the Department should ensure CTE programs align with students’ career goals, while also addressing State occupational demands” (p.9); and

⁹ OSC transmittal letter to Dr. Betty Rosa, Interim Commissioner of the New York State Education Department, p.3.

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- “The Department’s CTE Office has not established any requirements or issued guidance to address scheduling barriers for students trying to meet all Department educational requirements while also accommodating CTE program courses” (p.15).

By their own definitions, their audit provides little in the way of resources. It does not hint at reducing costs or safeguarding assets. Instead, it occupies itself with exploring OSC’s point of view about the educational goals that they believe to be priorities.

State Comptroller’s Comment 14 – The Department is incorrect in its assertion that our intentions were to explore our views about educational goals. The objective of our performance audit was to evaluate the Department’s administrative oversight of its CTE program, not to dictate to the Department what its CTE program must be. Based on the evidence cited in our report, the Department is not adequately overseeing its CTE program and is ultimately failing to serve both the students enrolled in CTE courses and the taxpayers who provide the funding for these courses.

The role of career and technical education has been debated for over a century.¹⁰ Schools of thought arise and disappear. Educators study the relationship of theory and practice and find new ways forward. Auditors are not arbiters of this complex debate. An audit goal should not be confused with a theory of education, but in this case, it was.

The Department appreciates the opportunity to provide feedback to this draft audit report and we look forward to receiving the final audit report. If you have any additional questions or need additional clarification, please contact Amy Cox at Amy.Cox@nysed.gov.

Yours truly,



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¹⁰ Hodge, E., Dougherty, S., & Burris, C., pp. 7-10 Retrieved 9/11/20 from <http://nepc.colorado.edu/publication/cte>.

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