

Consolidated Annual Report, Program Year 2017 - 2018 Massachusetts

Step 3: Use of Funds: Part A

1. During the reporting year, did your state use Perkins funds to develop valid and reliable assessments of technical skills?

Yes

Given significant budget constraints, now and into the foreseeable future, Massachusetts continues to develop a plan to identify technical skill attainment tests that are readily available, valid and reliable as part of the requirements for the award of the Certificate of Occupational Proficiency. Last year the Office for College, Career, and Technical Education (OCCTE) convened an advisory committee comprised of CTE educators, industry and workforce development staff to revise the list of credentials that have value to industry. The committee met in June and August to develop a survey for administrators in districts with one or more CTE programs to determine which credentials are currently offered, how many students earn the credentials offered, and if they have plans to add or subtract particular credentials. The survey was administered in the fall and was designed to allow districts to complete the survey with their Program Advisory Committees (PAC) at their fall meetings with PAC members weighing in on the value of particular credentials. OCCTE staff developed a survey for business and industry to identify credentials of value to their companies and to identify which credentials provided applicants with: 1) an advantage in being hired, 2) hired at a higher level position and/or at a higher wage. The Massachusetts Alliance for Education (MBAE) and Workforce Investment Board staff throughout the state sent out and actively promoted completion of the survey. After receipt of feedback from district staff, Program Advisory Committee members, and business and industry, OCCTE staff revised the current list of credentials that can be reported in the state Student Information Management (SIMS). OCCTE staff also worked with IT staff on enhancements to the current (SIMS) system to record student attainment of specific competencies. The current system captures technical skill attainment in broad categories, not specific credentials. IT staff added new data collection elements to the SIMS system that now allow districts to record attainment of up to three specific credentials from the newly revised list of credentials. Next steps will include: meetings with CTE directors and IT staff on the new data collection elements; continued collaboration with MBAE and Higher Education on the credential project and work with credential awarding entities.

2. During the reporting year, did your state use Perkins funds to develop or enhance data systems to collect and analyze data on secondary and postsecondary academic and employment outcomes?

Yes

School districts with career/vocational technical education programs continued to develop, improve, and expand the use of technology through implementation of the Massachusetts Vocational Technical Education Frameworks VTEF(s). The sixth standardized strand of each of the frameworks is titled Technological Knowledge and Skills. This strand outlines specific learning objectives and competencies for computer applications; concepts underlying computer hardware and software; responsible use of technology including ethics and safety issues in using electronic media; and the use of technology for research, problem solving, and communication.

Starting in the 2018-2019 grant year, the Department established a separate grants office to ensure consistency of grant review across all grants. This new office, called Resource Allocation and Strategic Planning (RASP), reviews all grants and received training in Perkins requirements and consults with a single contact person at OCCTE regarding any questions that arise regarding allowable costs under Perkins. This process assures uniformity of interpretation and lessens the chance for inconsistency in the grant review process.

Staff in the RASP office, with training and assistance from OCCTE, conducted desk reviews of Perkins IV allocation grantees' budgets to ensure that funds are used by eligible recipients to develop, improve, or expand the application of technology in career and technical education programs. Submitted Perkins budgets also allow school districts and colleges to provide professional development of staff which includes upgrading teachers' technological skills.

Because the Commonwealth of Massachusetts did not attain its performance goals for three consecutive years for postsecondary nontraditional by gender enrollment and completion, postsecondary institutions were required to provide the following information as part of their grant submission to qualify for funding:

- the categories of students for which there were identifiable disparities or gaps in performance compared to all students or any other categories of students based on Perkins Core Indicator Data Reports.
- action steps the postsecondary institution will take to address the failure to meet the 90% performance threshold for all students and how it will address identifiable gaps in performance among categories of students.
- a timeline with specific action steps about how this year's Perkins funding will be used to increase Nontraditional Participation and/or Nontraditional Completion.
- how they will oversee the successful and timely completion of each action step. This individual(s) or staff will work in collaboration with DESE staff and the DESE Equity Contractor.
- how they will use funds in this year's grant towards increasing Nontraditional Participation and/or Nontraditional Completion.
- and update any previously submitted improvement plans for 5P1 Nontraditional Participation and/or 5P2 Nontraditional Completion.
- participate in any professional development activities provided by the Department to address 5P1 Nontraditional Participation and/or 5P2 Nontraditional Completion.
- and submit quarterly reports on the postsecondary institution's progress towards improving performance under these two performance categories, due on October 31, 2018, February 1, 2019, and May 3, 2019.

Agendas for two postsecondary convening(s) held to improve 5P1 and 5P2 performance are attached to this section.

During the most recent performance year (Year 11 of Perkins) the Commonwealth met the standards negotiated with the USDOE for 5P1 and 5P2, but will continue to meet with postsecondary colleges to maintain and improve success under these criteria and work on additional matters relevant to postsecondary institutions.

Onsite Monitoring

OCCTE staff look for evidence of the teaching and learning of Strand 6 in order to determine compliance with the Perkins IV requirement of the "development, improvement, and expansion of technology." Two monitoring criteria are used in this aspect of the review: (1) Are programs structured so that students acquire technological (computer, etc.) knowledge and skills? and (2) Are the methods of measuring the acquisition by students of technological knowledge and skills appropriate? If a district is found to be out of compliance, the Department makes a finding and provides technical assistance to the district in the development of its corrective action plan and subsequent progress reports.

In 2017-2018, school districts with career and technical education programs have continued to track students' progress in acquiring the knowledge and skills in the Massachusetts Vocational Technical Education Frameworks. Districts can use skills competency tracking systems such as Skills Plus, or can create their own as long as the competency tracking system aligns with the competencies identified in the Vocational Technical Education frameworks.

Edwin Analytics allows powerful analysis of data and is linked to outcome measures such as attendance at colleges, employment and other postsecondary participation data and allows educational institutions to analyze how students are faring once they leave school. New reporting functionality specific to OCCTE was developed in the 2014-2015 school year entitled CTE Graduate Pathway Summary which details postsecondary enrollment, outcomes and continuation of vocational field of study for Massachusetts public school graduates who were CTE concentrators and enrolled in a MA public postsecondary institution. Training on the use of these and other Commonwealth analytical performance systems continues as new administrators and teachers come on board.

The revised Vocational Technical Frameworks standards have been added to the Massachusetts Work-Based Learning Plan (WBLP). The WBLP is a diagnostic, goal setting and assessment tool designed to drive learning and productivity on the job. The addition of these standards will enhance the tool's utility for tracking competencies of students in cooperative education and internship placements. With the VTEF standards included in the tool, some districts have elected to adapt it for use by teachers in career/vocational technical education programs for tracking students' progress in acquiring the knowledge and skills in the Massachusetts Vocational Technical Education.

Two years ago, the Office for Career/Vocational Technical Education merged with the Office for College and Career Readiness to form a new unit called the Office for College, Career, and Technical Education (OCCTE). This merger allows the unit to work as a singular entity merging Career and Technical Education, Career Readiness, and coordination with postsecondary education. This merger, which occurred in May of 2016, provides access to more data sources, including an Early Warning Indicator System (EWIS) which assesses factors that contribute to students' high school and postsecondary success. The two former units had been working side by side for years and have already collaborated on data acquisition and analysis. In addition, using the EDWIN system and other data resources mentioned in this CAR, the consolidated group has been looking at outcome trends for students enrolled in Perkins programs and other programs as part of regularly scheduled "data dives". This has allowed for initial integration of the two previously separate groups based around detailed analysis of student outcomes and which factors affect student success and retention in school, transition to college, and the military.

The OCCTE has primary metrics through which it gages success:

1. The number of students who graduate high school after completing a rigorous program of study and who enroll in post-secondary education or training through increasing:
2. Four and five year graduation rates (for all students and specifically for CTE concentrators)
3. Mass Core Completion rates (for all students and specifically for CTE concentrators)
4. Postsecondary enrollment (for all students and specifically for CTE concentrators)
5. Postsecondary persistence (for all students and specifically for CTE concentrators)
6. Postsecondary remediation (for all students and specifically for CTE concentrators)
7. Increasing access to high quality career development education and technical skills by:
8. Increasing opportunities to access and acquire foundation/employability skills
9. Increasing access to high quality career awareness opportunities; and
10. Opportunities to acquire technical skills by increasing student participation in CDE and increasing the number of CVTE seats in high-wage, high-demand industries.

The merger of College and Career Readiness and Career Vocational Technical Education makes this possible by:

Creating strong partnerships with other DESE units, as well as key K-12, workforce development, and higher education organizations.

-a strong sense of accountability with coordinated professional development, technical assistance, and regulation/guideline development.

-tools and programming that target the most at-risk students.

There are also plans to share the two units' previously separate data resources within the new unit to further its strategic goals.

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Step 3: Use of Funds: Part B

1. During the reporting year, how did your state assess the career and technical education programs funded under Perkins IV?

The Office for College, Career, and Technical Education (OCCTE) assesses career and technical education programs funded under Perkins IV through formal analysis of program enrollment and outcome data as well as onsite monitoring of a select number of public school districts, public two-year colleges and correctional institutions.

In February, districts, colleges and other recipients of Perkins funds must review performance for all Perkins Performance Indicators with their OCCTE program liaisons and submit or update improvement plans for main indicators and for those special populations that have not met 90% of the Perkins recipient's negotiated standard for the previous year. Perkins funding recipients must also provide annual reports on the status of previously submitted improvement plans. Liaisons review improvement plans for suitability for the populations identified and provide technical assistance to Perkins funding recipients who request assistance with these plans.

Working in collaboration with the Offices for Public School Monitoring, Language Acquisition, and Audit and Compliance, CCTE participates in monitoring of school districts that are recipients of Perkins funds. In 2017-2018, five (5) districts, one of them the largest district in the state, was monitored. In 2017-2018, fourteen (14) districts were monitored. In 2018-2019, the Department plans to monitor eleven (11) districts for CTE compliance.

There has been a shift in monitoring protocols this year. Each individual DESE office will be responsible for its own program monitoring, although program monitoring will be scheduled concurrently wherever feasible. In addition, the Department is using a set of weights to determine which programs require a lengthy (five days) or less intensive (as little as one day) based upon factors such as performance, previous review results, and number of programs, in order to make the visits less intrusive and optimize staff time while insuring that school reviews cover all critical Perkins review factors. Internally, Perkins reports and follow up will be conducted by OCCTE according to its own methodology (which has not changed in any way from the factors previously reported to the USDOE), and OCCTE staff will be responsible for corrective action independent of the Public School Monitoring office. Every district will receive a separate safety monitoring.

The Audit and Compliance Unit conducted intensive financial and data audits at seven (7) districts, colleges, and correctional institutions which were shared with these institutions. This activity will continue in this program year. Some of the Audit and Compliance reviews identify data findings and financial findings (such as incomplete student follow-up documentation). The Department sent notices and arranged changes in data reporting standards and reacquisition of misspent funds from any districts and postsecondary institutions found to have supplanted local funds or engaged in any other misuse of funds.

The review instrument used by the OCCTE for the assessment of the career and technical education programs includes: Assessment of Students; Student Identification and Program Placement; Parent and Community Involvement; Curriculum and Instruction; Student Support Services; Faculty, Staff and Administration; School and Work-Based Facilities and Equipment; Program Evaluation, and Recordkeeping and Fund Use.

Through the Methods of Administration Program, with USED's Office for Civil Rights, three districts were monitored for civil rights compliance using the Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color, National Origin, Sex and Handicap in Vocational Education Programs - 34 CFR, Part 100, Appendix B. In addition, staff from the OCCTE completed desk reviews of the required documentation submitted in preparation for the onsite reviews and provided quality technical assistance prior to, during, and after monitoring. In 2017-2018[SL(1)], the OCCTE Methods of Administration Program conducted civil rights monitoring at three regional vocational technical and agricultural school districts using the Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color, National Origin, and Handicap in Vocational Education Programs - 34 CFR, Part 100, Appendix B.

OCCTE retained the services of an Equity Consultant who provided professional development and technical assistance in this area. This consultant provided in-person professional development and follow-up technical assistance through phone, virtual, and onsite visits to districts and colleges to help them develop outreach and retention strategies to support students in occupations that are nontraditional by gender. On average, this individual conducted 8-12 professional development or technical assistance sessions with school districts per month.

The Equity Consultant provided professional development and technical assistance to school personnel and student leaders in career/vocational technical education programs, with the goal of increasing student participation in, and completion of, career/vocational technical education programs that prepare students for careers that are nontraditional for their gender.

In order to solicit best practices the consultant also conducted a survey of students in shops nontraditional for their gender at the Annual C/VTE Student Leadership Summit and at the 2nd Annual Massachusetts Girls in Trades Conference and Career Fair. This year, an additional Conference and Career Fair was added in Western Massachusetts. Over seven hundred young women and their teachers attended these conferences, which specifically highlighted apprenticeship and other workforce opportunities available to females in nontraditional careers.

Statewide technical assistance and training during the 2017-2018 school year included workshops at the Massachusetts Vocational Association (MVA) Conference, the Annual Massachusetts Association of Vocational Administrators (MAVA) Connecting for Success Conference, and at the MAVA Leadership Academy for current and prospective C/VTE administrators. These workshops addressed gender equity, gender identity and expression, and school climate. At the MAVA Leadership Academy, the consultant conducted a workshop on laws, policies, and best practices related to gender identity and gender expression. At the Connecting for Success Conference, the consultant conducted specialized workshops for teachers in Cosmetology and in Early Education, shops where males are especially underrepresented. The Equity Consultant also participated in the State SkillsUSA competition and served as a juror for the Nontraditional by Gender Portfolio submissions. In addition, the contractor planned and coordinated regional networking meetings for school personnel who are leading efforts in their schools to prepare students for careers that are nontraditional for their gender, and conducted an annual Student Leadership Summit with the South East Equity Leaders Group. Student leaders and advisors discussed strategies for creating access for all students, and the role and impact of school personnel and student leaders in supporting students pursuing careers that are nontraditional for their gender.

The monitoring of program performance of public two-year colleges and correctional institutions who are recipients of Perkins funds is conducted by staff from the Audit and Compliance Unit through annual desk reviews and visits. Financial reviews of postsecondary institutions were renewed over the past year as a part of increased functional responsibilities of the Audit and Compliance Unit - (Financial reviews of postsecondary institutions commenced again in 2017-2018). Results of these reviews were forwarded to and reviewed by the Office for Career/Vocational Technical Education. A new cycle of audits (now including data audits), as well as a monitoring strategy that extends beyond Civil Rights MOA compliance, is underway. Selected correctional institutions were monitored onsite in 2017-2018 and were monitored using a desk review previously. Financial audits of correctional institutions resumed in late 2017. Onsite reviews of both postsecondary and correctional institutions were conducted as part of a collaborative process within the newly formed unit, and for correctional institutions, with Adult and Community Learning Services. In addition, the agency has readjusted its entire monitoring strategy, and has developed risk assessment methodologies which are intended to focus the intensity of monitoring on those districts that need it most. OCCTE has adopted elements of this system and transitioned in 2017-2018. All districts will still be monitored, but the duration of the onsite visit will be determined by several risk factors, including the overall performance level of the district, performance levels on Perkins Indicators, number of findings in previous reviews, and recent changes to vocational/technical education leadership in the district, as indicated previously. The OCCTE has developed and is developing alternative systems to gather data to prepare for reviews using web-based systems so that districts can provide data months before the scheduled review.

Also, as allocation grants are being reviewed, RASP began this year to conduct agency wide reviews of all grants, consulting with an OCCTE supervisor to assure that Perkins funds are being used to meet the needs of special populations, including assurance that funds are used to enable special populations to meet adjusted levels of performance and that programs are designed to enable special populations to prepare for further education and training and for high-skill, high-wage, or high-demand occupations. Budgets are scrutinized carefully to assure that fund recipients that have improvement plans in place are utilizing Perkins funding to support the needs of special populations, or are using non-Perkins funds to satisfy the needs of these populations to meet performance levels, prepare for further education or training, or for high-demand, high-wage high-skill occupations.

Because Massachusetts failed to meet the Perkins standard for postsecondary enrollment and completion of nontraditional by gender students, in the summer of 2017 postsecondary institutions were required to provide action steps to improve enrollment and completion of nontraditional by gender students. Institutions will be monitored for compliance with plans that have been submitted.

However, as stated previously, in 2017-2018, the Commonwealth met the state standards for 5P1 and 5P2, so we are now focusing on increasing nontraditional representation by program and special population, and strategizing to keep increasing the participation of nontraditional enrollees and increasing completion of these programs.

2. During the reporting year, how did your state develop, approve, or expand the use of technology in career and technical education?

School districts with career/vocational technical education programs continued to develop, improve, and expand the use of technology through implementation of the Massachusetts Vocational Technical Education Frameworks (VTEF(s)). The sixth standardized strand of each of the frameworks is entitled Technological Knowledge and Skills. This strand outlines specific learning objectives and competencies for computer applications; concepts underlying computer hardware and software; responsible use of technology including ethics and safety issues in using electronic media; and the use of technology for research, problem solving, and communication.

As specified previously the RASP staff, with training and assistance of OCCTE staff, conducted desk reviews of budgets Perkins IV allocation grantees to ensure that funds are used by eligible recipients to develop, improve, or expand the application of technology in career and technical education programs. Submitted Perkins budget also allow school districts and colleges to provide professional development of staff which includes upgrading teachers' technological skills. When RASP took over the review function of grants, that unit consulted intensively with OCCTE to ensure that districts continued to use funds for these purposes.

During onsite monitoring, OCCTE staff look for evidence of the teaching and learning of Strand 6 in order to determine compliance with the Perkins IV requirement of the "development, improvement, and expansion of technology." Two monitoring criteria are used in this aspect of the review: (1) Are programs structured so that students acquire technological (computer, etc.) knowledge and skills? (2) Are the methods of measuring the acquisition by students of technological knowledge and skills appropriate? If a district is found to be out of compliance, the Department makes a finding and provides technical assistance to the district in the development of its corrective action plan and subsequent progress reports. In addition, the Department has been looking at methods to assess the overall quality of the program, as opposed to simple compliance.

The system offered by the state at no charge to districts called EDWIN Analytics remains active. This system which allows powerful analysis of data and which will be linked to outcome measures such as attendance at colleges, employment and other post participation data, allows educational institutions to analyze how students are faring once they leave school. New reporting functionality specific to CVTE (now OCCTE) was developed in the 2014-2015 school year entitled CVTE Graduate Pathway Summary which details postsecondary enrollment, outcomes and continuation of vocational field of study for MA public school graduates who were CTE concentrators and enrolled in a MA public postsecondary institution. Training on the use of Edwin Analytics continues as new administrators and teachers come on board.

The newly revised Vocational Technical Frameworks standards have been added to the Massachusetts Work-Based Learning Plan (WBLP). The WBLP which is a diagnostic, goal setting and assessment tool designed to drive learning and productivity on the job. The addition of these standards will enhance the tool's utility for tracking competencies of students in cooperative education and internship placements. Training sessions on the use of the tool were held throughout the state during the 2015-2016 school year, in addition to a session in June 2016 at the Connecting for Success professional development conference for vocational technical educators. Further trainings about how to use the Plan for employability skills was offered in early 2018.

During the 2017-18 school year, OCCTE continues to offer two distinct but complementary web-based vehicles for grant submission and provision of supplementary materials. The first, EdGrants, provides a comprehensive system for management of all aspects of the grant process, including submission, review, allocation, amendment, and final reporting. This system has been adopted in phases throughout the Department in recent years and was introduced to Perkins recipients in summer 2017 for implementation in the 2017-18 Perkins funding year. RASP is now the approver of Perkins grants, with input from OCCTE.

During 2017-18, OCCTE expanded its use of WizeHive's Zengine platform to facilitate online submissions of various types, including grant review if applicable in certain cases. The platform was used for CTE new program applications (Chapter 74); CTE Innovation Pathways; and postsecondary education institution remediation efforts related to the Commonwealth's failure to meet USED 5P1 and 5P2 performance targets. For 2018-19, OCCTE intends to use Zengine for its overall Perkins performance accountability process and its efforts to monitor compliance with state regulation and federal law relating to its CTE programs.

CVTE Frameworks Revisions

In the past several years, the OCCTE has been immersed in an initiative to revise its frameworks for 46 programs that are state-approved Vocational programs under Massachusetts General Law Chapter 74. The vast majority of these programs are conducted at secondary schools that also receive Perkins funding. All of the revised strands ensure students are equipped with 21st century skills, through the delivery of rigorous, relevant, and technologically challenging curricula. Professional development and technical assistance to help schools implement the frameworks continues.

For each program, the new frameworks have embedded academics that provide English Language Arts and Mathematics related to the vocational subject matter, and many of the programs are showing an increased emphasis on using technology as an integral part of the program curriculum. The revised embedded academics contained within each vocational program framework are directly aligned to the Department's current Academic Frameworks.

During the revision process, all of the vocational frameworks underwent a public comment period and were vetted by practitioners, the Massachusetts Division of Professional Licensure, Program Advisory Committees across the state, and business and industry professionals to ensure students are equipped with 21st century skills, through the delivery of rigorous, relevant, and technologically challenging curricula. For each program, the new frameworks have embedded academics that provide English Language Arts and Mathematics related to the vocational subject matter, and many of the programs are showing an increased emphasis on using technology as an integral part of the program curriculum. Consequently, the new frameworks are enhancing technological literacy and also math literacy which is often directly connected to technology.

The newly created vocational frameworks during this reporting cycle include the Aviation Maintenance Technology Program, aligned to Federal Aviation Administration (FAA 147), the Chapter 74 Vocational Exploratory Program Framework, and the secondary to postsecondary Advanced Manufacturing Framework. All frameworks now include equipment list required to deliver all strands in the framework and the identification of basic, essential and advanced skill standards, so the framework further supports secondary to postsecondary linked programs of study.

3. During the reporting year, what professional development programs did your state offer, including providing comprehensive professional development (including initial teacher preparation) for career and technical education teachers, faculty, administrators, and career guidance and academic counselors at the secondary and postsecondary levels? On what topics?

Specific college level courses are required for vocational technical teacher licensure. The Massachusetts Vocational Technical Education Regulations require a total of 39 college degree credits comprised of 21 credits (seven three-credit professional education courses) and 18 credits in academic core subjects in English, mathematics and science. Although the University of Massachusetts Boston no longer provides professional education courses, Fitchburg State University and Westfield State University continue to offer the following professional education courses:

Seminar for the Beginning Vocational Technical Education Teacher

Managing Student Behavior in a Healthy and Safe Environment

Teaching Methods for Vocational Technical Education – Instructional Strategies Addressing the Needs of Students with Disabilities in Vocational Technical Education

Teaching Methods for Vocational Technical Education – Educating and Assessing the Vocational Technical Education Learner

Developing and Implementing a Standards-Based Curriculum in Vocational Technical Education

Teaching Methods for Vocational Technical Education – Using Research-based Practices to Develop Effective

Instructional Strategies

There are academic requirements connected to teacher licensure which has generated discussion with MAVA and the field regarding the viability of substituting other content areas, such as OSHA training and/or Sheltered English Immersion training for some of the currently required coursework. The OCCTE has a "Licensure Project" which will work with a team in the field to review all the requirements for vocational licensure and present recommendations for possible regulatory changes.

MA Vocational Technical Teacher Testing Program

In 2017-2018, the Massachusetts Vocational Technical Teacher Testing Program administered seven rounds of written examinations and two rounds of performance examinations offered in forty-three of the forty-six technical areas. A total of 431 written exams and 273 performance examinations were administered. A total of 226 candidates qualified for Massachusetts Vocational Technical Teacher Licensure, slightly up from 216 candidates in fiscal year 2017. The number of candidates passing both examinations in fiscal year 2018 saw a significant decrease. Although there were a greater number of registered candidates for written exams, there was a significant decrease (5 percentage points) in the number of passing candidates in the combined exam passing rates, due to a significantly lower written exam passing rate. The fiscal year 2018 passing rate for candidates participating in the written exam was 58% and 83% for the performance exam (it was 65% and 85% respectively in fiscal year 2017). Finally, there was a significant increase in the amount of private written exams (13) and private performance exams (19) during fiscal year 2018. During that testing year, there were no appeals filed with the Technical Teacher Testing Office.

With the completion of the CVTE statewide Framework Revision Project, the Vocational Technical Teacher Testing Program has developed, and continues to implement, a plan to revise all of the current vocational technical teacher tests, for alignment to the revised vocational frameworks, approved in 2014. The MA Vocational Technical Teacher Testing Program facilitated thirty-one (31) test development workshops to ensure that test revisions are fully aligned with the revised Vocational Technical Education Frameworks.

A working group of OCCTE and OEL staff, representatives of the Massachusetts Association of Vocational Administrators (MAVA) and representatives of the universities offering the required courses was established last year and reviewed course objectives and delivery of instruction. The group also began work on the development of common syllabi for all three of the universities offering the required professional education courses. The work of this group continues.

Special Education Leadership Institutes

The Office for College, Career, and Technical Education (OCCTE) collaborates closely with the Office for Special Education Planning & Policy (OSEPP). Special Education-Career/Vocational Technical Leadership Institute (The Institute) participants (known as Cohort 5) began April 2016 and concluded in the summer 2017.

OSEPP and OCCTE have decided to discontinue this program, partly due to declining interest from the field reflected in lagging registrations, and over-saturation in the field, as several schools were returning to the academy multiple times as well as a misalignment between an understanding of the technical education delivery system in Massachusetts by WestEd consultants, whose focus was often nationally based, and not specific to Massachusetts. Therefore, a decision was made to sunset this program.

Perkins IV Leadership Academies

During this reporting cycle, the Department of Elementary and Secondary Education continues to utilize Perkins funds to support professional development academies administered in partnerships with school districts that have career/vocational technical education programs and the statewide vocational technical education leadership organization (MA Association of Vocational Administrators). There are two academies which provide high-quality, intensive, and focused professional development for aspiring leaders in career/vocational technical education. The intended outcome of these academies is initial Vocational Administrator licensure for academy participants, in accordance with Massachusetts General Law Chapter 74, creating a leadership pipeline in career/vocational technical education.

The Perkins Leadership Academy One is designed to lead to vocational administrative licensure for Vocational Supervisor-Director, Vocational Principal/Assistant Principal, or Cooperative Education Coordinator. Perkins Leadership Academy Two is designed to lead to MGL Chapter 74 vocational licensure for Vocational Principal/Assistant Principal, or Vocational Superintendent/Assistant Superintendent.

Connecting for Success Conference

In 2017-2018, this two-day statewide conference co-sponsored by the Massachusetts Association of Vocational Administrators (MAVA) and the Massachusetts Vocational Association (MVA) highlighted best practices and innovative trends. For the seventh year, pre-conference sessions were offered for teachers to acquire credentials, enabling them to offer certifications to students in Hot Works, Construction Supervisor renewal and ADOBE Certified Associate. Sessions were offered for teachers to receive certifications in CPR/AED and First Aid, Microsoft 365 teams, OneNote and OneNote Class Notebook, and Google Classroom. Sessions on Vocational Technical Teacher Literacy Test Prep and Grant Writing were also offered. Staff from the Department of Elementary and Secondary Education's OCCTE also collaborated with MAVA and MVA to plan workshops related to Perkins IV, such as understanding Perkins grant requirements and reporting and fiscal monitoring. OCCTE staff also offered workshops on the the new Chapter 74 Program Approval Process; new state initiatives to grow high quality career pathways; tools for effective Labor Market Information research, including the new regional blueprints; the new MyCAP tool for college and career planning; Industry-Recognized Credentials and the new data elements to report them and using DESE's Early Warning Indicator reports and other data tools. Several sessions were also offered on supporting students in programs nontraditional for their gender, including administrators, teachers and guidance staff. OCCTE staff collaborated with other Department of Elementary and Secondary Education staff to offer workshops on and support for transgender students. The offerings provided by the OCCTE were among the most well attended and highly rated sessions of the conference. By request, many will be offered again at the 2019 conference. DESE also sponsored the development of standards for professional development. These will be incorporated in OCCTE professional development when finalized.

During the 2016-17 school year, OCCTE offered a series of seven monthly webinars between September and March. These one-hour sessions, which reached between 30 and 117 registered participants each, included:

Introduction to the Postsecondary Early Warning Indicator System

Individual Learning Plans

Quality Assessment Tool

Career Pathways and Career Development Education

Chapter 74 New Program Approval

Early College and Other Postsecondary Linkages

2016 Graduation and Dropout Rate Data

During 2017-18, OCCTE also offered a number of webinars and convening(s) which included:

Perkins FY 2018 Correctional Institution Grants (Fund Code 452) Bidders Conference/Webinar

Early Warning and College Success

Chapter 74 New Program Intent to Apply Webinar

Chapter 74 New Program Part A (Preliminary) Application Webinar

Chapter 74 New Program Part B (Concluding) Application Webinar

High Quality College & Career Pathways "Office Hours" Webinars

Three (3) Perkins Postsecondary Convening(s)

CVTE Program Review Webinar

Graduation and Dropout Rate Webinar

Leadership Network and Strand 4 (Employability Skills) through the District and School Assistance Centers (DSACs).

DSAC(s) are a team developed to help struggling schools and districts across the Commonwealth. Massachusetts classifies our school districts into five categories. All districts/schools are evaluated against certain measures (such as students MCAS' scores). Districts/schools that require little or no improvement are classed as Level 2 or Level 1. A DSAC is called in to assist schools or districts that are performing marginally (Level 3) or poorly (Level 4 or Level 5). Level 5 districts can be taken over by the state). The Office for College, Career, and Technical Education has continued to provide some funding to have the DSAC team deliver professional development to CTE schools or districts in Levels 3-5. In addition, outcomes have been improved through the work of the Integrated Learning Network (Western Massachusetts DSAC). Both offer structured, regularly scheduled meetings that facilitate exercises, share ideas, and provide resources for strengthening technical and academic skills.

In 2016-2018, professional development topics included vocational and academic literacy integration; the use of data and MCU's (Model Curriculum Units) to deliver integration strategies; math and literacy in Early Education and Care programs; and integrating the Massachusetts Math, ELA and CVTE Frameworks. This year, two cohorts have been created in Eastern Massachusetts, one in the Northeast and one in the Southeast. The Cohorts combine districts of different levels (some being level 1) to promote sharing of positive practices, encourage networking, and establish mentoring relationships between districts with positive performance levels and those that have struggled. Participating districts have developed Instructional Leadership Teams (ILT) with the goal of developing leadership among teachers and promoting improvement. Future meetings will involve academic teachers to facilitate awareness of career and technical education programs and curriculum integration. Review and analysis of student level data has been emphasized for greater awareness of students' needs. Finally, the DSAC work has included having the districts look at long term planning including the development of curriculum and involving district leadership for sustainability.

4. During the reporting year, how did your state provide preparation for non-traditional fields in current and emerging professions, and other activities that expose students, including special populations, to high skill, high wage occupations?

During the state's most current vocational technical education new program approval process, there were eighteen (18) approvals for programs that are nontraditional for females and six (6) approvals for programs that are nontraditional for males. One approved program serves postsecondary adult students while the remainder of the programs serve secondary students. The total number of new programs that prepare students for non-traditional fields in current and emerging professions is twenty-four (24).

In addition, the Massachusetts Department of Elementary and Secondary Education's OCCTE retained the services of an Equity Consultant who provided professional development and technical assistance to school districts. The consultant continued to provide professional development and technical assistance to teachers, student leaders administrators, counselors, coop coordinators, nontraditional by gender group advisors, and other staff in career/vocational technical education, with the goal of increasing student participation in, and completion of, career/vocational technical education programs that prepare students for careers that are nontraditional for their gender. Additional information is described under Professional Development in "Assisting Districts and Colleges in Increasing Enrollment in and Retaining Student Nontraditional by Gender Occupational Training".

5. During the reporting year, how did your state provide support for programs for special populations that lead to high skill, high wage and high demand occupations?

The following are activities implemented in MA to ensure districts and colleges provide support for programs for special populations that lead to high-skill, high-wage, and high-demand occupations.

Districts and colleges in Massachusetts allocate Perkins funds for the professional development of academic and technical educators, as well as counselors to better support special populations in career areas, with special attention given to insuring access to information on high skill, high wage and in demand occupations. Both secondary and postsecondary Perkins Improvement Plans and Annual Reports are reviewed to insure transition services and programs of study described for special populations are designed to facilitate the effective transition from secondary to postsecondary and high skill, high wage, and in demand occupations. In addition, OCCTE regularly responds to district and college inquiries regarding access to and support in programs for special populations. Additionally, OCCTE routinely communicates with a subsidiary group of the Massachusetts Association of Vocational Administrators called VASE - Vocational Administrators of Special Education to collaborate regarding specific needs.

In this reporting cycle, OSSEPP and OCCTE noted concerns with the Special Education Career/Vocational Technical Education Leadership Institute. The Department met with the Vocational Administrators of Special Education (VASE), a sub-group of MAVA, solicited feedback about the Institute and recruited VASE Administrators to assist WestEd consultants with the delivery of content, and provided Massachusetts' focus for best practices.

OCCTE is a collaborating member of the planning group that the Massachusetts Association of Vocational Administrators employs to present the Connecting for Success professional development conference. Each year, the conference includes a strand of professional development specifically designed to assist guidance counselors, as well as academic, technical, and special educators in appropriately designing activities and lesson plans that introduce all students to the pathways and occupational options that lead to high skill, high wage, and high demands jobs in their geographic and program area. In 2017-2018, OCCTE staff working in collaboration with representatives from the Massachusetts Building Trades Employers Association and Unions, provided a workshop on apprenticeships and strengthening connections to vocational schools to access high wage, high skill careers in this high demand industry sector. The workshop had a particular emphasis on opportunities for women in the industry and initiatives to increase the number of women in the trades.

Additionally in 2016-2017, staff from the OCCTE served on the steering committee for the first Construction Career Day on Cape Cod, a collaboration between the Home Builders and Remodeler's Association and the Connecting Activities Network Home to introduce secondary school students to careers in the building trades. There was strong participation of female students and students of color in this event. It was offered again in the fall of 2017. The success of that event spawned another Construction Career day in the Brockton area offered in the spring of 2017 and again in 2018. Another new initiative that began in 2015 was the Girls in Trade event attended by over 300 young women from schools across the Commonwealth. The following year that initiative expanded, with an additional event held in Holyoke for schools in the western part of the state. In 2017, events were held both in Boston at the Electricians Apprenticeship Training facility with over 400 in attendance and at Springfield Technical Community College with over 250 attendees. Both events featured workshops for the students led by current tradeswomen who discussed the opportunities for careers in the trades and a trade show with representatives from apprenticeship programs of all of the building trades. There was also a workshop for teachers and career guidance staff on apprenticeship requirements and how to assist students in accessing those programs. Two events were also held for alumnae and parents of graduates of CTE programs to provide opportunities for immediate employment on large construction projects. These projects were sponsored by the developers and the construction trades. Yet another networking opportunity for students with apprenticeship training directors was held in the fall as part of National Apprenticeship week.

As noted in previous sections, the Department monitors school districts every six years for compliance with applicable state and federal laws and regulations during Program Reviews and civil rights reviews in accordance with the Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color, National Origin, Sex and Handicap in Vocational Education Programs. During both reviews, specific criteria allow us to monitor district/college efforts to ensure all students, including special populations, have access to the same information regarding careers that are high skill, high wage, and in demand, and are provided with the knowledge and skills necessary to obtain employment in these occupations. Review and results of the statewide compliance monitoring are primary sources of information in determining district/college professional development needs, additional supports and targeted technical assistance activities, which is made available to all eligible recipients annually.

For more than a decade, the Department's Office for Special Education Policy and Planning (OSEPP) has funded a special education staff position in the Office for Career/Vocational Technical Education (OCCTE). The position insures that relevant information, guidance and technical assistance specific to students with disabilities are available to eligible district/college recipients. The OCCTE staff member who holds this position also assists the OSEPP with data collection for the regional vocational technical high schools relative to the transition components of the Massachusetts Special Education State Performance Plan (MA SPP) Secondary Transition (Indicators 13 and 14) performance goals. The Methods of Administration (MOA Program) State Coordinator who is part of OCCTE staff, reviews and responds to all complaints filed by parents/guardians, applicants, and others regarding career/vocational technical education and special populations.

Additionally, staff from OCCTE continue to participate in the Boston Special Education Transition (B-SET) Project's Workforce Development Task Force, which has regular meetings and work sessions since May 2014. Convened by Massachusetts Advocates for Children and the Boston Foundation, the goal of the task force is to increase inclusive workforce and postsecondary education placements and opportunities for Boston youth and young adults with disabilities while enrolled in Boston Public Schools after exiting. OCCTE staff work collaboratively with OSEPP staff on the B-SET initiative and invited Boston Public Schools to allocate a portion of Perkins IV funding to support students with disabilities enrolled in CVTE programs at high school level and to offer specific programs that support work placements in high skill, high wage, in-demand occupations.

The organizational membership of the task force includes over 60 organizations and more than 100 individuals, with representatives from business, labor, state and city agencies, schools, higher education, funders, parent and advocacy organizations, youth with disabilities, and workforce development agencies. The groups' final work included recommendations and an Action Plan, which contains a "dashboard" of the following goal areas:

- to improve transition services and supports in the Boston Public Schools and charter schools for students with disabilities.
- family and community supports for transition-age youth with disabilities.
- methods to insure that students with disabilities in public and private colleges and other post-secondary pathways have access to accommodations and to career services.
- increase capacity and improve service coordination among state adult service, workforce development, transitional assistance and youth service agencies.
- provide "Opportunity Youth" to school and career pathways by supporting youth-serving agencies to better meet the needs of older youth who have hidden or undiagnosed disabilities.
- assist the capacity of employers in the private, non-profit and public sectors to hire and retain youth/young adults with disabilities.
- increase the infrastructure to raise awareness and resources, improve system navigation, and promote collaboration to support the transition to employment and career for Boston youth with disabilities.
- how disaggregated data was used to identify any disparities or gaps in performance between special populations and the performance of all students served and what steps were taken to address any disparities or gaps

Staff work in close collaboration with B-SET Operational Group 3, and meet regularly to support students transition to postsecondary education and the workforce. OCCTE's participation on this group has expanded our outreach and coordination efforts.

Student Information Management System (SIMS) is the state system for collecting data, which in turn is used to create Perkins Core Indicator Reports for each district, disaggregated by sixteen populations. The data is available to districts and used in the development of the Perkins Improvement Plans which are specific to each population and core indicator. Staff in the Office for College, Career, and Technical Education (OCCTE) review the data each year in concert with the review of the Perkins Improvement Plans. The state also disaggregated data going back 4 years for postsecondary institutions that had not met Perkins program performance indicators for 5P1 and 5P2 non-traditional enrollment and completion.

Program assessments of the needs of special populations

Program assessment of the needs of special populations is addressed in several ways, including the review of Perkins Core Indicators disaggregated by special populations, enhanced compliance monitoring, grant monitoring and ongoing technical assistance. To insure all students have equal access to all components of career/vocational technical education (cooperative education, student organizations, etc.), including all special populations, the OCCTE unit re-established the OCCTE Equity Team.

OCCTE has created a Perkins Postsecondary Internal Team to oversee the Perkins postsecondary sanctions work for core indicators 5P1 and 5P2. The team works closely with the Equity Contractor providing targeted professional development. This work also complements the Commonwealth's focus on identifying ways to expand access to high quality career/vocational technical education.

Vision:

- Raise awareness within the education and greater community to ensure equitable access to OCCTE for secondary and postsecondary students in Massachusetts, particularly for special populations.

Goals:

- Provide and promote the pursuit of equitable access for special populations across districts, two-year state colleges, and individual secondary/postsecondary OCCTE programs.

- Work with other DESE offices, business/industry (PACs/GACs), students, parents/guardians, community colleges and other stakeholders to ensure equitable access for special populations in Massachusetts.

Objectives:

- Develop methods and implement an assessment process to determine current levels of equitable access to all components of career/vocational technical education for special populations.

- Provide a method and assessment process to determine levels of access to information, schools, activities and programs for special populations NOT currently participating.

- Identify and utilize most recent OCCTE Perkins and Chapter-74 achievement gap data for special populations, and determine priority focus areas based on that data and provide resources, professional development, and technical assistance to districts specifically to ensure equitable access for special populations.

- Implement a method to determine high-quality programs, initiatives, activities (promising practices) currently being implemented specifically to address equal access to OCCTE career/vocational technical education for special populations.

- Develop and implement methods to expand active communication with key stakeholders, both internally and externally, regarding meeting the needs of special populations.

- Blend/braid all efforts with overarching DESE initiatives (e.g. insuring high quality in our state's teaching force for the neediest populations, targeted assistance etc).

In addition, as part of the Department's monitoring system, OCCTE reviews each eligible recipient receiving Perkins funds for the following:

- Students are reported accurately as Perkins participants under the Commonwealth's Student Information Management System (SIMS) or, at the postsecondary level, reported appropriately as Perkins students, as provided in a Memorandum of Agreement between the colleges and the Department of Elementary and Secondary Education

- Schools maintain records of one year student follow-up that verify the information districts have been reporting.

- Schools use Perkins funds appropriately as specified in annual Perkins grants.

- Schools use Perkins funds to supplement, not supplant, local resources.

- Guidance and placement services are provided in order to assist each student enrolled in a career/vocational technical education program in making the transition to the workforce, postsecondary education, and/or apprenticeship programs.

-Academic assessment results are used to design instructional and support services. All individuals including those who are members of special populations are provided with equal access to career/vocational technical education programs, services and activities, including that programs are readily accessible to persons with disabilities.

-Representatives of business/industry, organized labor (union), colleges(s), parent(s)/guardian(s), student(s), and representative(s) from registered apprenticeship program(s) are involved in the development, implementation, and review of career/vocational technical programs as members of Program Advisory Committees.

-Opportunities are provided to prepare students, including students that are members of special populations, for high skill, high wage, or high demand occupations that will lead to self-sufficiency.

Professional development activities, technical assistance or training provide education professionals with the knowledge, skills and occupational information needed to assist special student populations.

The Department of Elementary and Secondary Education's Office for College, Career and Technical Education retained the services of an Equity Consultant who provided professional development and technical assistance in this area. This consultant provided in-person professional development and follow-up technical assistance through phone, virtual, and onsite visits to districts and colleges to help them develop outreach and retention strategies to support students in occupations that are nontraditional by gender. On average, this individual conducted 8-12 professional development or technical assistance sessions with school districts per month.

The Equity Consultant provided professional development and technical assistance to school personnel and student leaders in career/vocational technical education programs, with the goal of increasing student participation in, and completion of, career/vocational technical education programs that prepare students for careers that are nontraditional for their gender.

In order to solicit best practices and resources to inform the trainings and technical assistance, the consultant also conducted a survey of students in shops nontraditional for their gender at the Annual C/VTE Student Leadership and at the 3rd Annual Massachusetts Girls in Trades Conference and Career Fair. This year, an additional Conference and Career Fair was added in Western Massachusetts. Over seven hundred young women and their teachers attended these conferences, which specifically highlighted apprenticeship and other workforce opportunities available to females in nontraditional careers.

Technical assistance was provided by email, telephone, and in-person. Statewide technical assistance and training included workshops at the Massachusetts Vocational Association (MVA) Conference, the Annual Massachusetts Association of Vocational Administrators (MAVA) Connecting for Success Conference, and at the MAVA Leadership Academy for current and prospective C/VTE administrators. These workshops addressed gender equity, gender identity and expression, and school climate. At the MAVA Leadership Academy, the consultant conducted a workshop on laws, policies, and best practices related to gender identity and gender expression; and at the Connecting for Success Conference, the consultant conducted specialized workshops for teachers in Cosmetology and in Early Education, shops where males are especially underrepresented. The Equity Consultant also participated in the State SkillsUSA competition and served as a juror for the Nontraditional by Gender Portfolio submissions. In addition, the contractor planned and coordinated regional networking meetings for school personnel who are leading efforts in their schools to prepare students for careers that are nontraditional for their gender, and conducted an annual daylong student leadership summit. Student leaders and advisors discussed strategies for creating access for all students, and the role and impact of school personnel and student leaders in supporting students pursuing careers that are nontraditional for their gender.

In 2017-2018, staff from the Massachusetts Department of Elementary and Secondary Education's Office for Career/Vocational Technical Education (OCCTE) supported the development of new career/vocational technical education programs through the state's program approval process. In 2016 -2017, twelve (12) new secondary Chapter 74 programs and one (1) postsecondary program were approved: Engineering Technology, Radio and Television Technician, Dental Assisting, Health Assisting, Early Education and Care, Information Support Services and Networking, Medical Assisting, Machine Tool Technology, Metal Fabrication and Joining Technologies, Programming and Web Development, and Criminal Justice/Legal & Protective Services. As of October 1, 2017, these new programs showed enrollments of 418 secondary students and no postsecondary students.

From 2017 to Fall of 2018, staff from the Massachusetts Department of Elementary and Secondary Education's Office for Career/Vocational Technical Education (OCCTE) supported the development of new Career/vocational technical education programs through the state's program approval process. District liaisons reviewed required documentation and conducted onsite reviews with local technical experts to ensure that proposed new programs met the approval criteria of the Massachusetts Vocational Technical Education Regulations. From 2017 to Fall of 2018, 51 new programs (18 were approved in October 2017; 33 were approved in October 2018) were approved in 28 districts. Total enrollments for new programs approved in 2017 and 2018 as reported in SIMS were 1,002 students, of which ten (10) were postsecondary students.

A listing of the districts and programs follows:

District Name

Approved October 2017

Bristol-Plymouth Regional Technical High School-Heating, Ventilation, Air Conditioning-Refrigeration (HVAC-R)
Postsecondary

Cambridge Public Schools-Programming and Web Development

Fall River Public Schools-Engineering Technology

Fall River Public Schools-Marketing

Greater Fall River Regional Technical High School (Diman)-Programming and Web Development

Greater Lawrence Regional Technical High School-Medical Assisting

Greater Lawrence Regional Technical High School-Horticulture

Haverhill Public Schools-Programming and Web Development

Leominster Public School-Information Support Services and Networking (ISSN)

Minuteman Regional Technical High School-Advanced Manufacturing (Machine Tool Technology)

Montachusett Regional Technical High School-Animal Science

Quincy Public Schools - North High School-Design and Visual Communication

Quincy Public Schools - North High School-Radio and Television

Salem Public Schools-Medical Assisting

South Middlesex Regional Technical High School (Keefe Tech)-Dental Assisting

South Shore Regional Technical High School-Horticulture

Upper Cape Cod Regional Technical High School-HVAC-R

Whittier Regional Technical High School-Engineering Technology

Worcester Public Schools - North High School-Business Technology

Approved October 2018

Minuteman Tech (PS)-Culinary

Minuteman Tech(PS)- Electricity

Minuteman Tech-(PS) LPN

Minuteman Tech-Machine Tool Technology (Advanced Manufacturing)

Southeastern Technical Institute-Machine Tool Technology

Minuteman Tech (PS)-Metal Fabrication

Southeastern Technical Institute- Metal Fabrication

Norton High School- Business Tech

Everett High School-Carpentry

South Hadley High School-Carpentry

South Hadley High School-Culinary

Everett High School-Culinary

Worcester South High Community School- Culinary

Worcester South High Community School-Diesel Tech

Worcester South High Community School-Early Education and Care

Taconic High School (Pittsfield)-Early Education and Care

Bristol-Plymouth RVTHS- Engineering

Essex Technical HS-Engineering

Barnstable High School- Environmental Science

Boston Green Academy-Environmental Science

Boston Arts Academy-Fashion

Everett High School-Health Assisting

Martha's Vineyard Regional HS-Health Assisting

Everett High School-Hospitality

Bay Path High School-Information Support Services and Networking (ISSN)

Everett High School-Machine Tool Technology

Everett High School-Marketing

Diman RVTHS-Medical Assisting

Madison Park TVHS-Programming and Web Development

Maynard High School-Radio and Television

Minuteman Tech-Radio and Television

Northeast Met RVTHS-Robotics

Weymouth High School- Robotics

District liaisons reviewed required documentation and conducted onsite reviews with local technical experts to ensure that proposed new programs met the approval criteria of the Massachusetts Vocational Technical Education.

The required documentation includes, but is not limited to:

-Labor market demand/student demand for the program.

-There is no duplication of any already approved Chapter 74 program which has sufficient capacity to enroll new students.

-The program has been planned in consultation with its advisory committee based on adequate and timely information as to workforce and job development demands or job market trends.

-The program adheres to Chapter 74 (state-approved) educational frameworks that consist of safety training, technical skills, academic/technical integration, employability skills, management and entrepreneurship skills, and technological skills.

-The plan for the review of curriculum and instruction to ensure that it is free of bias and stereotyping based on race, color, sex, religion, national origin, disability or sexual orientation.

-The district uses its Department-approved admission policy and an appropriate application for admission. The program provides career planning and adheres to Massachusetts Frameworks for CVTE programs.

OCCTE, during the 2015-16 school year, issued \$107,200 in CTE Partnership Planning Grant to fund nine school districts and three community colleges to support regional and local partnerships to expand existing and/or develop new CTE programs and initiatives that increase student access to CTE opportunities, primarily through more effective use and integration of existing capacity and resources. During the 2016-17 school year, DESE awarded \$702,800 in CTE Partnership Implementation Grants to seven of the original 12 Planning Grant recipients. The grant concluded on December 31, 2017. Across the seven funded programs, benefits included:

-Increased curricular alignment and cooperation between secondary and postsecondary institutions in the provision of CTE programming.

-Provision of CTE programming to students who would otherwise not have access, including traditionally underserved students.

-Development of increased embedded supports for traditionally underserved students enrolled in grant-funded programming.

Challenges encountered by recipients included identifying sustainable funding streams for the programs and surmounting logistical barriers to collaboration and student participation.

Additionally, the Department of Elementary and Secondary Education (DESE) began an initiative, Courageous Conversations, to address first internally, and then with school districts, the role of institutional racism bias in limiting student access to educational opportunities. OCCTE is using this lens to help explore institutional barriers to CTE access, especially for students of color.

OCCTE also engaged with researchers at the University of Connecticut to examine CTE program wait lists and admission practices for evidence of differential access for special populations.

6. During the reporting year, how did your state offer technical assistance for eligible recipients?

In 2017-2018, staff from the Department of Elementary and Secondary Education's Office for Technical Education (OCCTE) continued to provide technical assistance to eligible recipients primarily through onsite visits, phone conferencing, and online support. Staff also provided assistance through participation at various professional conferences and seminars.

Technical assistance was provided to high schools and community colleges around: Starting New Career Vocational Technical Programs, Cooperative Education Programs, Admissions, Technical Assistance with Voluntary Compliance Plans (VCP) required for Letters of Findings (LOF) for Civil Rights Reviews, Advisory Committee and Partnerships with Business and Industry, and Safety Reviews of Vocational Technical Education Programs.

Staff from OCCTE work closely with the Massachusetts School Building Authority (MSBA) and are involved in the review of proposed new buildings, including the vocational programs offered, shop layout and required equipment, to ensure the vocational technical frameworks can be implemented, and accessibility of equal access for all students.

Long term technical assistance continues to occur with a city vocational technical high school piloting a new career and technical education program in Aviation Maintenance Technology. Staff from OCCTE continue to work with the district, and all affiliated partners, with the goal of establishing a new statewide Chapter 74 vocational technical education program in Massachusetts. During this reporting cycle, the new Aviation Maintenance Technology Program statewide draft framework was completed, along with the vocational technical teacher written and performance teacher tests.

Perkins funds were utilized to facilitate the development of both the statewide Aviation Maintenance Technology Program, Framework and the Massachusetts Vocational Technical Teacher Written and Performance Test for Aviation Maintenance Technology Program.

Additional technical assistance provided to school districts and community colleges during 2017-18 included:

- Helping Perkins recipients understand their core indicator data and develop and/or revise their intervention strategies to address indicator under performance.
- Helping new Perkins recipients and new program directors/coordinators become acquainted with the intricacies of Perkins requirements.
- Assisting districts in their applications for C74 state approval.
- Assisting districts regarding admissions, to ensure equitable access for all, including program placement.
- Assisting districts and community college regarding Methods of Administration (MOA) Vocational Guidelines requirements, specific to programs, placement and accessibility.
- Helping school districts better serve their special populations.
- Program improvement planning, application for Program Grants and data reporting for Perkins IV.

As referenced in previous sections, postsecondary institutions that failed to meet the nontraditional by gender enrollment and completion goals were required in their grant applications to provide a general description of how they would address these performance concerns. Liaisons from the state provided technical assistance and data to the postsecondary schools to address this failure to meet performance expectations.

Development and technical assistance to make programs more welcoming to students who are nontraditional by gender for the field in question was also provided throughout the year. The Equity Consultant conducted 20 professional development sessions and provided more than 30 days of technical assistance to school districts. This included regional networking meetings for school personnel and student leaders who are spearheading efforts in their schools to prepare students for careers that are nontraditional for their gender. Student leaders and advisors discussed strategies for creating access for all students, and the role and impact of school personnel and student leaders in supporting students pursuing careers that are nontraditional for their gender.

Also, as part of the Department's Improvement plan to USDOE for nontraditional by gender students enrolling in and completing postsecondary programs, OCCTE did extensive data analysis and planned three postsecondary convening(s) for the 2018-20198 program year. The Equity consultant ran those sessions and is working with OCCTE staff to plan these activities.

7. Serving individuals in state institutions

Part I: State Correctional Institutions

Amount of Perkins funds used for CTE programs in state correctional institutions:

172185

Number of students participating in Perkins CTE programs in state correctional institutions:

210

Describe the CTE services and activities carried out in state correctional institutions.

In 2017-2018, OCCTE continued to collaborate with the Massachusetts Department of Corrections, Massachusetts Department of Youth Services, and County Sheriffs' Offices to improve career/vocational technical education programming in correctional institutions by issuing a competitive grant opportunity. The purpose of this competitive grant was to support and implement career and technical education program(s) that help inmates benefit from programs that meet the general definition of Perkins career and technical education. Proposed programs and activities would offer a sequence of at least two courses that would provide individuals with coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions, providing technical skill proficiency, an industry-recognized credential, a certificate, or an associate degree. These courses may include prerequisite courses (other than a remedial course) that are coherent and rigorous and may include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, occupation-specific skills, and knowledge of all aspects of an industry of an individual.

Programs that were offered to student-inmates in state institutions included:

-graphic design, culinary arts, computer operation, website development, construction-related fields, custodial technician, horticulture, auto tech, and green technologies.

In 2017-2018, six (6) institutions received funding for seven (7) programs that served inmates in adult and youth male and female facilities. The amount of funding utilized for the 2017-2018 program year was \$173,185. Some correctional institutions contracted with regional vocational technical schools and colleges to provide instruction. All student-inmates were also involved in reintegration programs at their individual facilities. Career assessments, career development and employability skills were included in several programs with some inmates receiving assistance with general career and educational planning, and some receiving assistance with remedial education and high school equivalency from funding sources other than Perkins. Desk reviews were conducted of all grantees.

OCCTE worked in collaboration with the Office for Adult and Community Learning Services in order to coordinate adult basic education services with career and technical education to allow a more successful transition for these individuals and also maximize resource utilization and coordination of services. In November of 2018, \$194,468 was allocated to four (4) grantees in order to provide coordinated services. Three county houses of corrections will establish new career & technical education programs (two in manufacturing, one in landscape architecture) and another will substantially improve its Fundamentals of Hospitality program. All four will prepare returning citizens to succeed in CORI-neutral, in-demand, career pathways with potential to earn a sustainable living wage.

Part II: State Institutions Serving Individuals with Disabilities

Amount of Perkins funds used for CTE programs in state institutions serving individuals with disabilities:

0

Number of students participating of Perkins CTE programs in institutions serving individuals with disabilities:

0

Describe the CTE services and activities carried out in institutions serving individuals with disabilities.

Not applicable

8. During the reporting year, did your state use Perkins funds to support public charter schools operating career and technical education programs?

Yes

In 2016-17, OCCTE began considering applications from charter schools for approval to operated state-approved CTE programs. In 2017-18, one such program was approved, and a second charter school applied during 2017-18 for approval to open a state-approved program in 2018-19. That approval was granted in Fall 2018.

9. During the reporting year, did your state use Perkins funds to support family and consumer sciences programs?

No

10. During the reporting year, did your state use Perkins funds to award incentive grants to eligible recipients for exemplary performance or for use for innovative initiatives under Sec. 135(c)(19) of Perkins IV?

No

11. During the reporting year, did your state use Perkins funds to provide career and technical education programs for adults and school dropouts to complete their secondary school education?

No

13P. During the reporting year, did your state use Perkins funds to provide assistance to individuals who have participated in Perkins assisted services and activities in continuing their education or training or finding appropriate jobs?

No

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Step 3: Use of Funds: Part C

1. During the reporting year, how did your state provide support for career and technical education programs that improve the academic and career and technical skills of students through the integration of academics with career and technical education?

The Department of Elementary and Secondary Education restructured over the past two years. This resulted in the merger of the Office for College and Career Readiness with the Office for Career, Vocational Technical Education. The newly formed Office for College, Career, and Technical Education (OCCTE) supports statewide and national initiatives to enhance 21st century skills for all students and ensure all students are college and career ready. A statewide goal of the Governor of Massachusetts is to increase access to college, career and technical education programs for all students. This new structure supports that goal. The consolidation also allows for more staff interactions to share resources and best practices among the group and with the field. OCCTE has identified priority projects which link components of Perkins Career and Technical Education with national career readiness goals. Some of projects include expanding access, regulatory licensure work, graduation and postsecondary access and a system for statewide college, career and technical education professional development and technical assistance.

To embrace all of these important areas, OCCTE has designed two large statewide initiatives. One Project is called Expanding Access Program Projects, and the other is the Chapter 74 Postsecondary Advanced Manufacturing Project.

The Expanding Access Program Project consists of four bodies of work, as follows:

1. The Commonwealth has worked to create a Chapter 74 Vocational Technical Exploratory Program, in alignment to MGL C.74, the Vocational Technical Education Regulations 603 CMR 4.0, the Federal Vocational Guidelines (MOA/OCR USED), and Career Development Education Models, to be vetted during 2018, of the Vocational Technical Education Framework for Aviation Maintenance Technology, to include Massachusetts' six strands contained in the VTE Framework, aligned to Federal Aviation Administration (FAA) 147 Certification.
2. Revision of the Written Vocational Technical Teacher Test, under the direction of the Massachusetts Vocational Technical Teacher Testing Program, and/or scoping work for feasibility for a Secondary Level Chapter 74 Electrical Program statewide Apprenticeship Articulation Agreement.
3. The postsecondary Chapter 74 Advanced Manufacturing Project supports the Governor's initiative to expand adults access to high quality vocational technical education programs, which support business and industry by meeting the critical workforce needs in the Commonwealth. This work will begin with a pilot postsecondary Advanced Manufacturing Program. This project involves collaboration and partnerships between the Executive Office of Education (EOE), the Executive Office of Housing and Economic Development (EOHED), the Massachusetts Association of Vocational Administrators (MAVA), Massachusetts Community College Executive Office (MCCEO), and the Department of Elementary and Secondary Education (ESE). This partnership will create and implement a Chapter 74 state-approved postsecondary level Advanced Manufacturing Program for fall 2018. This includes the development of curriculum, a stream-lined New Chapter 74 Application Process in alignment to federal financial aid, and multiple program entry/exit points leading to credentials, which are linked to continuing educational opportunities through a statewide articulation agreement.

The program goals for this project include:

- Development of a postsecondary Vocational Framework, with multiple entry/exit points, which lead to credentialing.
- Development of a stream-lined new postsecondary Chapter 74 Program Application Process, aligned to Title IV federal financial aid requirements.
- Development of a statewide articulation process allowing students to seamlessly transfer credit to two and four-year institutions, and/or apprenticeship.

-The program will identify workforce need and align new postsecondary chapter 74 Advanced Manufacturing program development to suitable geographic regions across Massachusetts. (North Shore & South Shore Gap)

--Create visibility through a statewide Marketing Campaign in 2019.

4. Additionally, Massachusetts has created the first postsecondary Chapter 74 Vocational Technical Electrical Technology Recognized Apprenticeship Credentialing agreement. Working in collaboration with the field and the Division of Professional Licensure, the Board of State Examiners of Electricians now recognizes the program's 700 hours toward licensure. Students receive 300 hours of related classroom theory and 400 hours applied learning. Guidelines have been created by the Electrical Board, and the Department will monitor these programs to ensure they meet the Board's requirements, along with MGL Chapter 74 Vocational Technical Education Program requirements.

Partnerships with Massachusetts' 16 Workforce Development Boards and the Massachusetts Department of Elementary and Secondary Education's Connecting Activities initiative provided students with exposure to high skill, high wage occupations through structured internship opportunities in their career/vocational technical education programs. In a number of schools with career/vocational technical education programs, the Massachusetts Work-Based Learning Plan was used to complement the Massachusetts Vocational Technical Education Frameworks in order to structure student learning and productivity in these internships.

OCCTE continues to monitor for compliance through the Coordinated Program Review process. In 2016-2017, the criterion that guided such monitoring was: "Are programs structured so that students acquire academic (including embedded academic) knowledge and skills?" In 2016-2017, OCCTE staff also continued to review proposed budgets of each Perkins IV eligible recipient for evidence that districts utilize Perkins funds, as required, to support such integration.

In the summer of 2017, because Massachusetts failed to meet the Perkins standard for postsecondary enrollment and completion of nontraditional by gender students, postsecondary institutions were required to provide the following information, and will be monitored for compliance with plans that have been submitted:

-the categories of students for which there were identifiable disparities or gaps in performance compared to all students or any other categories of students based on Perkins Core Indicator Data Reports.

-action steps the postsecondary institution will take to address the failure to meet the 90% performance threshold for all students and how it will address identifiable gaps in performance among categories of students.

-a timeline with specific action steps about how this year's Perkins funding will be used to increase Nontraditional Participation and/or Nontraditional Completion.

-the individual(s) or staff responsible in each institution to oversee the successful and timely completion of each action step. This individual(s) or staff will work in collaboration with ESE staff and the ESE Equity Contractor(s).

-Target funding in this year's grant towards increasing Nontraditional Participation and/or Nontraditional Completion.

-Review and update any previously submitted improvement plans for 5P1 Nontraditional Participation and/or 5P2 Nontraditional Completion.

-Participate in any professional development activities provided by the Department to address 5P1 Nontraditional Participation and/or 5P2 Nontraditional Completion.

-Submit quarterly reports on the postsecondary institution's progress towards improving performance under these two performance categories, due in October, 2018, February 2019, and May 2019.

Although 5P1 and 5P2 negotiated performance levels (FAUPL's) have been met for the current (Year 11) performance year, the Department will continue sponsoring these activities to increase levels of nontraditional by gender student enrollments and completions and to increase nontraditional by gender participation and completion in all nontraditional programs and for all populations served.

2. During the reporting year, how did your state support partnerships among local educational agencies, institutions of higher education, adult education providers, and, as appropriate, other entities, such as employers, labor organizations, intermediaries, parents, and local partnerships, to enable students to achieve state academic standards, and career and technical skills.

As indicated previously, DESE restructured the agency a few years ago. This resulted in the merger of the Office for College and Career Readiness with the Office for Career, Vocational Technical Education, now known as the Office for College, Career, and Technical Education (OCCTE), supports statewide and national initiatives to enhance 21st century skills for all students and ensure all students are college and career ready. A statewide goal of the Governor of Massachusetts is to increase access to college, career and technical education programs for all students. One outcome of this consolidation is enhanced staff interactions to share resources and best practices among the group and with the field. OCCTE has identified priority projects which link components of Perkins Career and Technical Education with national career readiness goals. Some of projects include expanding access, regulatory licensure work, graduation and postsecondary access and a system for statewide college, career and technical education professional development and technical assistance. To embrace all of these important areas, OCCTE has designed two large statewide initiatives.

One initiative was the Expanding Access Project and the other is the Chapter 74 Postsecondary Advanced Manufacturing Project. The statewide Expanding Access Project was completed during this reporting cycle and included the following bodies of work:

- Creation of a Chapter 74 Vocational Technical Exploratory Program, in alignment to MGL C.74, the Vocational Technical Education Regulations 603 CMR 4.0, the Federal Vocational Guidelines (MOA/OCR USED), and Career Development Education Models, to be vetted during 2018, of the Vocational Technical Education Framework for Aviation Maintenance Technology, to include Massachusetts' six strands contained in the VTE Framework, aligned to Federal Aviation Administration (FAA) 147 Certification.

- Revision of the Written Vocational Technical Teacher Test, under the direction of the Massachusetts Vocational Technical Teacher Testing Program.

- Creation and/or scoping work for feasibility for a Secondary Level Chapter 74 Electrical Program statewide Apprenticeship Articulation Agreement.

The Postsecondary Chapter 74 Advanced Manufacturing Project supports the Governor's initiative to expand adult access to high quality vocational technical education programs, which support business and industry by meeting the critical workforce needs in the Commonwealth. The first Postsecondary Advanced Manufacturing Program will begin enrolling students winter 2019. This project involved collaboration and partnerships between the Executive Office of Education (EOE), the Executive Office of Housing and Economic Development (EOHED), the Massachusetts Association of Vocational Administrators (MAVA), Massachusetts Community College Executive Office (MCCEO), and the Department of Elementary and Secondary Education (ESE). This partnership created and is now implementing state approved postsecondary level Advanced Manufacturing Programs across the Commonwealth. This work included the development of a statewide postsecondary curriculum framework, a stream-lined New Chapter 74 Application Process in alignment to federal financial aid, including multiple program entry/exit points leading to credentials, also linked to continuing educational opportunities through a statewide articulation agreement.

The four program goals which have been met for this project are:

1. Development of a Postsecondary Vocational Framework, with multiple entry/exit points, which lead to credentialing.
2. Development of a stream-lined New Postsecondary Chapter 74 Program Application Process, aligned to Title IV federal financial aid requirements.
3. Development of a statewide articulation process allowing students to seamlessly transfer credit to two and four-year institutions, and/or apprenticeship.
4. Engagement of Career Centers/Workforce Regions which included:

- identification of workforce need and align new postsecondary chapter 74 Advanced Manufacturing program development to suitable geographic regions across Massachusetts. (North Shore & South Shore Gap)

- Creation of more visibility through a statewide Marketing Campaign in 2019.

In 2017-2018, DESE continued to work collaboratively with numerous partners including the Massachusetts Department of Higher Education, Massachusetts Community Colleges Executive Office, Massachusetts Executive Office of Labor and Workforce Development, Massachusetts STEM Council, Massachusetts Division of Apprentice Standards, Massachusetts Association of Vocational Administrators, Massachusetts Vocational Association, Massachusetts Association of School Counselors, Massachusetts Division of Professional Licensure, Massachusetts Division of Occupational Safety, Massachusetts Department of Public Health, Massachusetts Department of Transportation, Massachusetts Department of Public Safety, Massachusetts Department of Early Education and Care, Plumbing, Heating, Cooling Contractors of Massachusetts, Massachusetts Business Alliance for Education, Manufacturing Advancement Center Workforce Innovation Collaborative, Home Builders Institute, Massachusetts School Building Authority, Massachusetts Department of Correction, Massachusetts Department of Youth Services, and other business and labor partners at the local, state, regional levels.

At the state level, collaboration among the Massachusetts Department of Elementary and Secondary Education, the Commonwealth Corporation, the Office of the Attorney General, MA Department of Industrial Accidents, MA Division of Occupational Safety, MA Department of Public Health and the U.S. Department of Labor resulted in an annual professional development strategy on the state and local levels that focused on promoting health and safety for young workers by connecting participants with promising practices that support safe and healthy workplaces. The Massachusetts Youth Employment Safety Team (YES) is an interagency network that brings together state and federal agencies to coordinate efforts to protect and promote the health and safety of young workers. Staff from OCCTE participate on the YES team.

OCCTE staff also collaborated with the Massachusetts Division of Professional Licensure by participating on the Board of State Examiners of Electricians representing the interests of vocational technical students throughout the state. Graduates of approved vocational technical programs receive credit applied to the work and theory hours as required for licensure.

One new initiative undertaken was the Electrician Board's willingness to accept a new postsecondary Chapter 74 program. Working with the Department, a methodology for students earning credit towards licensure was developed and accepted by the Electrical Board, opening the path for additional postsecondary Electrician training programs across the Commonwealth. Massachusetts created the first Postsecondary Chapter 74 Vocational Technical Electrical Program. Through OCCTE's collaboration with the field and the Division of Professional Licensure, the Board of State Examiners of Electricians, now recognizes the program's 750 hours toward licensure. Students receive 300 hours of related classroom theory and 450 hours applied learning. Guidelines have been created by the Electrical Board, and the Department will monitor these programs to ensure they meet the Board's requirements, along with MGL Chapter 74 Vocational Technical Education Program requirements.

Additionally, OCCTE staff have continued to work with the Board of Examiners of Sheet Metal Workers regarding credit toward licensure for students that complete high school programs in Sheet Metalworking, Metal Fabrication and Heating, Ventilation and Air Conditioning. Graduates of these approved programs are eligible for a year's credit toward both the work and related theory hours requirements for the Sheet Metal license.

During 2017-2018, OCCTE staff worked with the Division of Apprentice Standards and Division of Professional Licensure staff for graduates of Chapter 74 approved Plumbing, HVAC/R and Metal Fabrication programs to receive credit toward a Pipefitter's License. Graduates of those programs will now receive 50 hours credit for related classroom theory and 500 hours credit for applied learning shop time.

3. During the reporting year, did your state use Perkins funds to improve career guidance and academic counseling programs?

Yes

Perkins funds are used yearly by individual schools to support acquisition of career software, such as Career Cruising and Naviance, which can help students map out career pathways both by themselves and with the aid of a counselor. In addition, OCCTE has had two career planning tools that it shares with schools running Perkins programs to promote to districts as viable career planning tools—YourPlanfortheFuture and Individual Learning Plans (ILP(s)).

OCCTE increased its efforts to expand the use of Individual Learning Plans ILP(s) as a template for the required Career Plan in Chapter 74 regulations. The ILP has the potential to fulfill and expand on the requirements of the Career Plan.

Some best practices for ILP development include:

-Having a mentor for every student to guide ILP development while ensuring every student has a caring adult in the building which may be one adult for a small group of students, increasing peer support as well implementing the ILP in a structured environment such as career planning time, homeroom or advisory

-Using an online tool to capture the academic achievements, personal/social/emotional skill attainment, and career development activities. The online tool not only captures planning for success after high school but is also a powerful search engine allowing students to go deep in learning about and preparing for a specific career. Online tools such as Naviance, Career Cruising and YourPlanfortheFuture have the capability to not only allow students to search for careers of interest based on the results of an interest survey, but also to find labor market information including current earnings potential, availability of positions in a given field, and any needed post-secondary education or training. In addition, the online tools provide for the development of a resume and practice in completing job applications. This is not a "once and done" tool. Any student must be given time throughout the year to develop his/her plan. OCCTE has encouraged schools to attend workshops and presentations on ILP development and on implementation of this more robust Career Plan.

4. During the reporting year, did your state use Perkins funds to establish agreements, including articulation agreements, between secondary school and postsecondary career and technical education programs to provide postsecondary education and training opportunities for students?

Yes

During this reporting cycle, the secondary level statewide articulation agreement for Machine Tool Technology (now being referred to as Advanced Manufacturing), was reviewed and revised as part of the Postsecondary Advanced Manufacturing Project. This also included the revision of the secondary level vocational framework, so the most up to date standards and equipment utilized in business and industry is included.

Perkins funds were not allocated during this reporting cycle to establish additional statewide articulation agreements, sub-recipients of secondary and postsecondary Perkins funds are required to support linkage activities through local Perkins grants. Massachusetts has a total of fourteen (14) statewide articulation agreements.

Massachusetts maintains the following chapter 74 statewide articulation agreements in:

Automotive Technology

Business Technology

Carpentry

Culinary Arts

Design & Visual Communications

Drafting

Early Education & Care

Engineering/Manufacturing Technology

Assisting (Certified Nursing Assistant)

Heating, Air Conditioning, & Refrigeration

Hospitality Administration

Information Support Services & Networking

Medical Assisting

Tool Technology (Advanced Manufacturing)

Current articulation agreements assist students enrolled in chapter 74 state-approved programs to transition to postsecondary education within Massachusetts community colleges.

Postsecondary grants continue to contain a 20% set a side of funds to ensure community colleges create linkage programs and activities with nearby secondary high schools, which included dual enrollment activities that provide students with credit. Linkage initiatives also included the development, modifications, and approval of local articulation agreements.

Linkage activities continue to include marketing and promotion of articulated credit for career and technical course work with the promotion of dual enrollment in academic courses. Students enrolled in career/vocational technical education were made aware of dual enrollment opportunities and advantages during early Accuplacer testing, campus tours, and during technical program presentations. School-wide and classroom presentations on dual enrollment were also conducted. Massachusetts students enrolled in career and technical education programs received dual credit through the Commonwealth's Statewide Articulation Program. However, the exact enrollment and outcome data is not yet available. Some community colleges waived the Accuplacer for those students who qualified and as a condition of dual enrollment. Students enrolled in career and technical education programs also received credit through innovative CVTE linkage efforts such as after school and summer early college courses.

OCCTE has completed two large statewide initiatives for 2018. One Project called Expanding Access Project and the other is the Chapter 74 Postsecondary Advanced Manufacturing Project.

Through the Expanding Access Program Project Grant, one of four teams scoped the feasibility for the creation of a Secondary Level Chapter 74 Electrical Program statewide Apprenticeship Articulation Agreement.

The Chapter 74 Postsecondary Advanced Manufacturing Project was also comprised of four statewide teams. Team 3 was charged with developing a statewide articulation process allowing students to seamlessly transfer credit to two and four-year institutions, and/or apprenticeship. Since a secondary level statewide articulation agreement currently exists for Machine Tool Technology (Advanced Manufacturing), that agreement will be used to build additional linkages to four-year programs, and additional industry recognized credentials.

5. During the reporting year, did your state use Perkins funds to support initiatives to facilitate the transition of sub baccalaureate career and technical education students into baccalaureate programs?

Yes

In 2017-2018, the teaching and learning of all aspects of an industry in Massachusetts' career/vocational technical education programs was again supported by professional development and monitoring for implementation of all strands in the Massachusetts Vocational Technical Education Frameworks. Each of the forty-four (44) Massachusetts Vocational Technical Education Frameworks includes six strands representative of the following aspects of all industries (which were addressed in previous sections): 1. occupational safety & health, 2. technical, 3. embedded academic, 4. management and entrepreneurship, 5. employability, and 6. technological knowledge and skills. The Frameworks can be found at <http://www.doe.mass.edu/cte/frameworks>.

The newly created vocational frameworks during this reporting cycle include the Aviation Maintenance Technology Program, aligned to Federal Aviation Administration (FAA 147), the Chapter 74 Vocational Exploratory Program Framework, and the secondary to postsecondary Advanced Manufacturing Framework. All frameworks now include equipment list required to deliver all strands in the framework and the identification of basic, essential and advanced skill standards, so the framework further supports secondary to postsecondary linked programs of study.

All Frameworks include appendices containing information on industry recognized credentials, resources, professional organizations and relevant websites. These appendices are useful for all teachers, particularly beginning teachers, to have resources to expand understanding of all aspects of the industry.

6. During the reporting year, did your state use Perkins funds to support career and technical student organizations?

Yes

In 2017-2018, Perkins IV Leadership funds again supported the following career/vocational technical education student organizations: Business Professionals of America (BPA), Distributive Education Clubs of America (DECA), Health Occupations Students of America (HOSA), Massachusetts FFA, and SkillsUSA. According to the RFP that all CTSO's are asked to respond to, several activities were designed and carried out by each student organization to increase the participation of students who are members of special populations and enhance instruction in employability, leadership, and communication skills. A summary of their activities can be found through links to each organization available at <http://www.doe.mass.edu/cte/studentorgs.html>.

7. During the reporting year, did your state use Perkins funds to support career and technical education programs that offer experience in, and understanding of, all aspects of an industry for which students are preparing to enter?

Yes

In 2017-2018, the teaching and learning of all aspects of an industry in Massachusetts' career/vocational technical education programs was again supported by professional development and monitoring for implementation of all strands in the Massachusetts Vocational Technical Education Frameworks. Each of the forty-four (44) Massachusetts Vocational Technical Education Frameworks includes six strands representative of the following aspects of all industries (which were addressed in previous sections): 1. occupational safety & health, 2. technical, 3. embedded academic, 4. Management and entrepreneurship, 5. employability, and 6. technological knowledge and skills. The Frameworks can be found at <http://www.doe.mass.edu/cte/frameworks>.

The newly created vocational frameworks during this reporting cycle include the Aviation Maintenance Technology Program, aligned to Federal Aviation Administration (FAA 147), the Chapter 74 Vocational Exploratory Program Framework, and the secondary to postsecondary Advanced Manufacturing Framework. All frameworks now include equipment list required to deliver all strands in the framework and the identification of basic, essential and advanced skill standards, so the framework further supports secondary to postsecondary linked programs of study.

All Vocational Frameworks include several appendices which contain information on industry recognized credentials, resources, professional organizations and relevant websites. These appendices are useful for all teachers, particularly beginning teachers, to have resources to expand understanding of all aspects of the industry.

8. During the reporting year, did your state use Perkins funds to support partnerships between education and business, or business intermediaries, including cooperative education and adjunct faculty arrangements at the secondary and postsecondary levels?

Yes

The Associate Commissioner for Career, College and Technical Education provides oversight and alignment of the OCCTE unit at the Department. In addition, the Center for Educational Options also provides outreach and coordination with external partners and initiatives to promote the implementation and integration of vocational, workforce, and career readiness programs through (1) communication with vocational and technical school administrators, teachers and schools; (2) cultivating relationships across education, labor and workforce development, private sector, housing and economic development and (3) building strategic partnerships throughout the community college and higher education system.

As in prior years, each career/vocational technical education program at the secondary and postsecondary level supported partnerships through program advisory committees comprised of representatives from business and industry as well as postsecondary education. The committees meet at least twice a year to advise and assist in the improvement, planning, operation, and evaluation of their programs. In addition, each postsecondary institution that receives Perkins funding must spend 20% of its funding on high school to college linkage activities.

In 2017-2018, 3,603 secondary students from 26 vocational technical high schools, 1 independent vocational and agricultural school, 2 agricultural schools, one collaborative, 9* academic regional schools, and 31 comprehensive high schools with career/vocational technical education programs (up from 1,359 in 2008-09, a 265% increase) gained valuable workplace experience through participation in the cooperative education component of their career/vocational technical education programs. Of this total, 1286 (35.7%) were female, down slightly from 37.6% in 2008-09. Members of ethnic/racial minorities totaled 809 (22.4%; up from 17% in 2008-09). Economically disadvantaged* students in cooperative education totaled 735 (20.4%) up from 16.7% in 2014-2015). Students with disabilities totaled 475 (13.1%; down from 15.2% in 2008-09)

Coop students in 2018: 3774

Female: 1378

Ethnic/racial minorities: 915

Economically disadvantaged: 806

Students with disabilities: 431

*Note: In 2015, the measurement changed from Low Income to Economically Disadvantaged. The way the data is calculated (see <http://www.doe.mass.edu/infoservices/data/ChangingMetric.pdf>), numbers for Economically Disadvantaged are considerably lower than low income and they should not be compared.

Also, OCCTE staff members continued to promote articulation agreements between secondary and postsecondary schools and have also, in collaboration with OCCTE, been working to encourage early college design initiatives that facilitate students acquiring college credit prior to students leaving high school.

9. During the reporting year, did your state use Perkins funds to support the improvement or development of new career and technical education courses and initiatives, including career clusters, career academies, and distance education?

Yes

From 2017 to Fall of 2018, staff from the Massachusetts Department of Elementary and Secondary Education's Office for Career/Vocational Technical Education (OCCTE) supported the development of new Career/vocational technical education programs through the state's program approval process. District liaisons reviewed required documentation and conducted onsite reviews with local technical experts to ensure that proposed new programs met the approval criteria of the Massachusetts Vocational Technical Education Regulations. From 2017 to Fall of 2018, 51 new programs (18 were approved in October 2017; 33 were approved in October 2018) were approved in 28 districts. Total enrollments for new programs approved in 2017 and 2018 as reported in SIMS were 1,019 students, including ten (27) postsecondary students.

A listing of the districts and programs follows:

District Name

Approved October 2017

Bristol-Plymouth Regional Technical High School-Heating, Ventilation, Air Conditioning-Refrigeration (HVAC-R)
Postsecondary

Cambridge Public Schools-Programming and Web Development

Fall River Public Schools-Engineering Technology

Fall River Public Schools-Marketing

Greater Fall River Regional Technical High School (Diman)-Programming and Web Development

Greater Lawrence Regional Technical High School-Medical Assisting

Greater Lawrence Regional Technical High School-Horticulture
Haverhill Public Schools-Programming and Web Development
Leominster Public School-Information Support Services and Networking (ISSN)
Minuteman Regional Technical High School-Advanced Manufacturing (Machine Tool Technology)
Montachusett Regional Technical High School-Animal Science
Quincy Public Schools - North High School-Design and Visual Communication
Quincy Public Schools - North High School-Radio and Television
Salem Public Schools-Medical Assisting
South Middlesex Regional Technical High School (Keefe Tech)-Dental Assisting
South Shore Regional Technical High School-Horticulture
Upper Cape Cod Regional Technical High School-HVAC-R
Whittier Regional Technical High School-Engineering Technology
Worcester Public Schools - North High School-Business Technology
Approved October 2018
Minuteman Tech (PS)-Culinary
Minuteman Tech(PS)- Electricity
Minuteman Tech-(PS) LPN
Minuteman Tech-Machine Tool Technology (Advanced Manufacturing)
Southeastern Technical Institute-Machine Tool Technology
Minuteman Tech (PS)-Metal Fabrication
Southeastern Technical Institute- Metal Fabrication
Norton High School- Business Tech
Everett High School-Carpentry
South Hadley High School-Carpentry
South Hadley High School-Culinary
Everett High School-Culinary
Worcester South High Community School- Culinary
Worcester South High Community School-Diesel Tech
Worcester South High Community School-Early Education and Care
Taconic High School (Pittsfield)-Early Education and Care
Bristol-Plymouth RVTHS- Engineering
Essex Technical HS-Engineering
Barnstable High School- Environmental Science

Boston Green Academy-Environmental Science

Boston Arts Academy-Fashion

Everett High School-Health Assisting

Martha's Vineyard Regional HS-Health Assisting

Everett High School-Hospitality

Bay Path High School-Information Support Services and Networking (ISSN)

Everett High School-Machine Tool Technology

Everett High School-Marketing

Diman RVTHS-Medical Assisting

Madison Park TVHS-Programming and Web Development

Maynard High School-Radio and Television

Minuteman Tech-Radio and Television

Northeast Met RVTHS-Robotics

Weymouth High School- Robotics

The Commonwealth continues to explore a standardized procedure to create a Pilot Program Process which will expand and streamline the process to add to the palette of state-approved Chapter 74 programs. Current projects include the development of the Aviation Maintenance Technology Program through the statewide Expanding Access Project 2018. There are discussions regarding maritime occupations and wind farm-related occupations. OCCTE is also working to streamline the licensure approval process of teachers for newly developed programs.

In the past, the Chapter 74 application process often took several months –even up to two years –due in large part to the submission of incomplete applications. Last year, the team worked to ensure that the backlog of Chapter 74 applications currently on file was eliminated by the end of the calendar year and put a new process in place to more efficiently approve applications in the next year. Backlogged applications have been totally cleared out, with 13 approved this past year. The state then instituted its new application and process which was concluded by November 1, 2017, and started a new cycle of program reviews with Letters of Intent due September 29, 2017.

OCCTE, during 2016-17, continued to refine its Chapter 74 application process. Changes implemented in late 2016-17 for the 2017-18 school year included:

- Revising the timeline for submission of pre-application and application materials so that most applicants will be informed of ESE's approval determination by the end of the 2017-18 school year;

- Moving the entire process online using the aforementioned WizeHive software package and adding language to the application signaling: (1) the expectation that programs include a minimum number of contact hours; and (2) that some programs are associated with extremely weak regional and/or statewide labor demand and may not be approved for that reason alone.

OCCTE has planned a number of webinars for the 2017-18 school year to guide prospective applicants through the application process.

OCCTE, during the 2015-16 school year, issued \$107,200 in CTE Partnership Planning Grant funds to nine school districts and three community colleges to support regional and local partnerships to expand existing and/or develop new CTE programs and initiatives that increase student access to CTE opportunities, primarily through more effective use and integration of existing capacity and resources. During the 2016-17 school year, ESE awarded \$702,800 in CTE Partnership Implementation Grants to seven of the original 12 Planning Grant recipients. The grant concluded on December 31, 2017. Across the seven funded programs, benefits included:

-Increased curricular alignment and cooperation between secondary and postsecondary institutions in the provision of CTE programming.

-Provision of CTE programming to students who would otherwise not have access, including traditionally underserved students.

-Development of increased embedded supports for traditionally underserved students enrolled in grant-funded programming.

Challenges encountered by recipients included identifying sustainable funding streams for the programs and surmounting logistical barriers to collaboration and student participation.

The Department also received final reports on a competitive Perkins grant for \$107,200 to Holyoke Public Schools to fund a targeted Career and Technical Education (CTE) Regional Consolidation, Innovative Non-Duplication and Increased Access grant. The grant was intended to activate and institutionalize a regional/local partnership through formal agreement to consolidate duplicative programs, expand existing and/or develop new CTE programs and initiatives that increase student access to CTE opportunities while increasing program quality and eliminating or consolidating duplicative programs that exist in a limited geographic area. Partnerships included, but are not limited to: regional vocational technical school districts, city vocational/technical high schools, comprehensive high schools, traditional academic high schools, local collaborative(s), community colleges, publicly-funded adult education institutions, workforce development boards, businesses, economic development agencies, and community-based organizations that offer publicly funded educational services. Partnerships resulted in opportunities to consolidate and sustain CTE programming after the funding for planning and implementation sunsets, and provide a template for similar future consolidation efforts.

For more information on this initiative, please see Section C, Part 12 of this report.

10. During the reporting year, did your state use Perkins funds to provide activities to support entrepreneurship education and training?

No

Districts can use Perkins funds, according to the Massachusetts state plan, to support teachers in these programs for up to three years. Perkins funds, if they do not supplant local funding, can also be used to provide improvements to Chapter 74 programs.

11. During the reporting year, did your state use Perkins funds to improve the recruitment and retention of career and technical education teachers, faculty, administrators, or career guidance and academic counselors, and the transition to teaching from business and industry, including small business?

Yes

Districts can use Perkins funds, according to the Massachusetts state plan, to support teachers in these programs for up to three years. Perkins funds, if they do not supplant local funding, can also be used to provide improvements to Chapter 74 programs.

12. During the reporting year, did your state use Perkins funds to support occupational and employment information resources?

Yes

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- Development of innovative models and action plans that would lead to an implementation strategy intended to reduce or eliminate duplicative programs within the Hampden County region and nearby areas, while increasing student seats and access to Career Technical Education (CTE) training for jobs which are in demand and aligned with current labor market data.
- Serving traditionally underserved and nontraditional populations.
- Providing students with a sequence of courses that will lead to technical skill proficiency, an industry-recognized credential, and/or an associate's degree.
- Ensuring proposed programs will integrate academic and technical content into new programs and/or the expansion of current programs.

In addition, through the Holyoke partnering grant, consultants began to facilitate meetings and conversations between Holyoke and partnering districts regarding the CTE Targeted Regional Collaboration Grant. The partnering districts formed two formal collaborative working groups. The first consists of all the superintendents, comprehensive and vocational, of all of the participating districts. The second group was 10 career technical work groups from each participating district. The members of their work groups are generally comprised of principals and directors, program coordinators and guidance staff. The staff work groups gathered education and employment related data; recommendations were shared and agreed upon by their superintendents. Decision making was in the hands of the superintendents and their respective stakeholders (i.e. school committee). The task force was informed about the potential for formulating inter-municipal agreements including the required documentation. It was recommended that the Superintendent's CTE Collaborative Task Force meet biannually for the foreseeable future to address the consolidation and elimination of duplicate programs as well as the addition of new programs. Topics for discussion included:

- Creative uses of existing facilities-
- Alternative scheduling

- Improved partnerships with local businesses
- Fostering career pathways development
- Partnerships between regional vocational tech districts and comprehensive schools

A data follow up was established and a student survey was developed to assess local needs and feedback on programs and student interest. Student surveys were distributed, compiled and analyzed in Fall of 2017.

The Hampden County REB (Workforce Investment Board) assisted with collection of labor market indicators for comparison with submitted program data. CTE Work Groups completed analysis of educational data and student survey data and compared it with labor market data. They also developed preliminary recommendations for the Superintendent's Task Force.

Additionally, the following data has been either developed, or collected:

- Demographic trends in Pioneer Valley, UMass Donahue Institute, Economic and Public Policy Research
- Geographical data on distances between area vocational schools and sending K-12 comprehensive districts
- Chapter 74 programs offered by participating districts
- Tuition costs for non-member districts sending students to vocational schools

The Superintendents Task Force reviewed:

- Preliminary recommendations and prioritized initiatives for a strategic plan that acknowledges budgetary considerations
- Outcomes of the Planning Process:
 - Creation of the Superintendents CTE Collaborative Task Force
 - Creation of a data base that allows for ongoing comparison and verification of educational data as it relates to labor market indicator data
 - Endorsement of the high school academy model for Holyoke especially as it relates to the future of Dean Technical High School
 - Potential for the collaboration and coordination of the career pathways programs and innovation pathways programs in both the vocational/technical districts and comprehensive high schools.

Two planning groups formed based on school district demographics and commonalities. The first was the Urban Vocational Technical Schools/District consisting of Holyoke, Chicopee, and Springfield. The second was Smith Vocational/ Technical, Lower Pioneer Valley Educational Collaborative, the Northampton Public Schools, Easthampton Public Schools, and Hampshire Regional and Westfield Technical Academy.

Analysis of data related to career/technical education programs indicated that students who choose to attend a vocational technical school have satisfactory access to programs.

The declining student population in Western MA has had an impact on every facet of vocational technical education in the region. Competition for the limited number students may lead to counter-productive program redundancies and potential issues with:

1. Budgets
2. Access for students
3. Enrollment
4. Programming

Procedures for Eliminating Duplicative CTE Programs:

The Superintendents Task Force or their designees will review all data to determine and make recommendations about program closures. All program closures will be shared with all member of the task force. This is a process that will begin in the fall of 2018. It is recognized that a very small number of programs could justifiably be eliminated. Beyond that, thoughtful consideration along with thorough data analysis must be undertaken before the elimination of any additional programs.