SOUTH CAROLINA 2005–06 NARRATIVE REPORT

I. STATE ADMINISTRATION

A. Sole State Agency and Governance Structure

As the administrative entity for the State Board of Education (State Board), the South Carolina Department of Education (SDE) is the sole state agency responsible for the administration and supervision of vocational and technical education programs consistent with state laws and in accordance with the Carl D. Perkins Vocational and Technical Education Act of 1998 (Perkins III). The state superintendent of education serves as the chief administrative officer of the public education system as well as serving as the secretary and administrative officer for the State Board. The director of the SDE's Office of Career and Technology Education (OCTE) is the official representative of the state superintendent in all matters pertaining to career and technology education (CATE) and is responsible for the planning, administration, coordination, supervision, and promotion of all phases of the CATE program in South Carolina.

The State Board for Technical and Comprehensive Education (SBTCE) has the statutory responsibility for the approval and maintenance of high-quality instructional programs among the technical colleges under its authority. All programs of study that are two years or less are approved by the SBTCE. The SBTCE regulates the South Carolina Technical College System (SCTCS), a statewide system that includes the sixteen technical colleges and the state-level staff responsible for the coordination and supervision of these two-year technical colleges. The SDE collaborates with the SCTCS in developing and updating the Perkins III state plan and carries out the state administration and leadership activities required of each eligible agency under the federal law. The OCTE provides direction and assistance to the SCTCS in administering the Perkins III postsecondary funds and in implementing the postsecondary local application and performance accountability procedures.

The OCTE conducts the state-level activities related to implementing the state plan, allocating and distributing resources to eligible recipients, monitoring and evaluating program effectiveness, ensuring compliance with all applicable federal laws, and providing technical assistance. The OCTE uses a comprehensive, computerized local plan/progress report process that links the uses of funds to program improvement. The OCTE coordinates the state performance accountability system and collects data from secondary schools to assess each school district and multidistrict career center for performance on the basis of the Perkins standards (i.e., secondary core indicators). Local educational agencies (LEAs) that fail to meet one or more of the state standards are required to initiate a local improvement-plan process based on a three-tiered approach for state technical assistance outlined in the state improvement plan.

B. Organization of Vocational and Technical Education Programs

The public education system in South Carolina is composed of eighty-five school districts that offer secondary CATE programs in high schools (grades nine through twelve), middle schools (grades six through eight), and career and technology centers that operate within most of the larger school districts. In addition, eleven independent, multidistrict career centers provide CATE programs to students from districts that do not have their own career centers. Two state correctional agencies, one for juveniles and one for adults, operate as special school districts and provide secondary CATE programs. The OCTE provides policy guidance and technical assistance to these ninety-eight eligible recipients under Title I of Perkins III.

The SBTCE operates the SCTCS, which includes sixteen technical colleges, a center for accelerated technology training for industry-specific training, and the SBTCE staff. The SCTCS offers a wide range of postsecondary educational opportunities at the associate degree, diploma, and certificate levels. The SBTCE is responsible for the state-level development, implementation, and coordination of postsecondary career and technical training and education to support the economic development of the state. The state staff also provides policy guidance and technical assistance to the sixteen colleges that receive Title I funding for postsecondary programs under Perkins III.

South Carolina's Tech Prep initiative is administered through sixteen education and business alliances that were created in connection with the state's sixteen technical colleges. These partnerships submit grant applications each year in order to secure funding for their activities in support of the Tech Prep initiative. The alliance directors are charged with the management of all aspects of grant activities, including any necessary grant amendments and all midyear and end-of-year progress reporting. The OCTE provides policy guidance and technical assistance to the sixteen alliances, which receive funds under Title II of Perkins III.

The South Carolina Education and Economic Development Act (EEDA), signed in May 2005, mandates the organization of high school curricula around clusters of study and addresses key elements that will impact how the state's high school curricula are structured and connected to postsecondary study. Many schools in larger districts in the state have made the transition to the cluster model in response to the national movement, while smaller, typically rural, schools have made less progress toward offering career clusters. As a result of the EEDA, all public school districts in South Carolina are required to organize their curricula around a minimum of three career clusters by July 1, 2007. A November 2006 survey of district superintendents indicates that the majority of school districts have already identified the minimum three clusters of study and majors or are now in the process of doing so.

The EEDA calls for the South Carolina Commission on Higher Education's Advisory Committee on Academic Programs (ACAP) to address articulation agreements between school districts and public institutions of higher education in South Carolina in order to provide seamless pathways for adequately prepared students to move from high school directly into two- and four-year colleges. The ACAP is charged to review, revise, and recommend secondary to postsecondary articulation agreements, promote the development of measures to certify equivalency in content and rigor for all courses included in these agreements, and make recommendations to the Commission regarding course work acceptable statewide for transfer within a related area of study.

Academic rigor is another key aspect of curriculum design that is addressed through the EEDA. By the 2009–10 school year, every high school in South Carolina will be required to implement *High Schools That Work* (*HSTW*) or another approved model of whole school reform. Among the *HSTW* initiative's ten key practices are the following: motivating more students to meet high expectations by integrating high expectations into classroom practices and giving students frequent feedback; requiring each student to complete an upgraded academic core and a concentration; teaching more students the essential concepts of the college-preparatory curriculum by encouraging them to apply academic content and skills to real-world problems and projects; and providing more students access to intellectually challenging career/technical studies in high-demand fields that emphasize the higher-level mathematics, science, literacy, and

problem-solving skills needed in the workplace and in further education. Any model that is selected in lieu of *HSTW* must address the *HSTW* principles, include career and technology education components, demonstrate a focus on whole school reform, possess data-driven characteristics or components, and include an accountability component.

II. STATE LEADERSHIP ACTIVITIES

A. Required Uses of Funds

Assessment of Career and Technology Programs Funded under the Act

The South Carolina state plan for career and technology education is based on the 2020 Vision for Career and Technology Education in South Carolina. This strategic plan reflects statewide priorities for CATE programs and initiatives expressed through ten vision themes: accountability, business relationships, curriculum, funding, leadership, marketing, professional development, recruitment, structural change, and technology. The OCTE provides leadership and support to assist local administrators in assessing program needs through the quality review measures, which are aligned with the 2020 Vision themes and are designed to provide guidance and direction to LEAs in establishing, maintaining, and evaluating CATE programs. State and local advisory councils and committees provide the program-specific business and industry input used to assess individual programs.

The OCTE also provides leadership to LEAs in assessing and meeting the needs of students who are identified as special populations. The local plans and progress reports detail the LEAs' efforts to provide equal access to CATE programs, assess students' needs, support accountability standards, and evaluate the progress of the special populations. OCTE staff members review these annual plans and reports to ensure that the LEAs are assisting special populations in meeting standards and in preparing for further learning and high-wage careers.

Developing, Improving, or Expanding the Use of Technology in Programs

The Digital Input Technologies course provides instruction in voice recognition, handwritten input through PC and Graphire tablets, digital files, text and graphic input through scanners, and the operation of PDAs (personal digital assistants). The South Carolina Virtual Enterprises Network included twenty-six schools, where over five hundred secondary students developed and operated virtual firms. Through a partnership with the Oracle Corporation, students were enrolled in the Oracle Internet Academy's database design and management courses, which can lead to industry certification. Twenty-three South Carolina schools offered the Oracle Academy curriculum. Six of these schools have expanded the curriculum to include Oracle Java, which prepares students to take the Computer Science exams under the Advanced Placement Program.

South Carolina ranks third in the nation for its number of high schools and middle schools that have implemented the Project Lead the Way (PLTW) pre-engineering and engineering technology curriculum, which combines a sequence of state-of-the-art technical courses with college preparatory courses in mathematics and science. The *FIRST* LEGO League competition held at the University of South Carolina (USC) involved three thousand participants. Students designed and constructed LEGO robots, thereby integrating mathematics, science, and technology into their problem-solving activities. Eight hundred students from South Carolina and across the United States also displayed their high-level skills in mathematics, science, and engineering technologies as they competed in the FIRST Robotics Palmetto Regional (500

students) and the FIRST VEX Challenge (300 students) competitions, using robots they had designed and constructed with the assistance of business and industry partners.

Twenty automotive technology programs have become NATEF/ASE (National Automotive Technicians Education Foundation/Automotive Service Excellence) certified and are meeting industry standards both in the facilities and in the curriculum, which allows students the opportunity to obtain industry certification. Five automotive technology programs are certified by the Automotive Youth Educational Systems (AYES) and are given industry support through internship programs in local dealerships. The BMW Corporation hosted the Automotive Collision Repair student competition at its facility, giving students the opportunity to use state-of-the-art equipment in their problem-solving activities.

Professional Development Programs

The OCTE sponsored the 2006 Education and Business Summit in June for over fifteen hundred teachers, administrators, counselors, and business and industry representatives associated with the state's CATE, Tech Prep, and School-to-Work (STW) initiatives. Representatives from the South Carolina Association for Career and Technical Education, the SCTCS, and the South Carolina Occupational Information System provided planning assistance and speakers for the Summit. National and state presenters conducted workshops specific to contextual, academic, and CATE instruction, along with staff development for statewide career counseling efforts associated with PLTW and the South Carolina career guidance model. Over five hundred Summit attendees received units toward the renewal of their state teaching credentials.

Twenty participants completed the requirements of the seventh institute for new CATE administrators in 2005–06. The institutes are designed to prepare new and prospective administrators to handle the primary responsibilities of administering CATE programs, supervising teachers, developing budgets, and much more. Participants attend five full-day sessions during a school year, mentor two days with a veteran CATE administrator outside of their own school districts, and attend the annual Education and Business Summit. Twenty-seven participants began the eighth institute at the June 2006 Summit.

DIRECT (Developing Instructional Readiness for Educators of Career and Technology), the OCTE's teacher training initiative, addresses the needs of new CATE teachers completing the initial professional education requirements for work-based teacher certification. With the tagline "Taking experts from the workplace to the classroom," the program includes a combination of preservice and in-service institutes, teacher observations, and college course work. Using master teachers, OCTE staff, and national presenters, DIRECT has trained 264 new CATE teachers in the areas of methods, curriculum development, classroom and lab management, and assessment. Ninety percent of the teachers who enrolled in DIRECT are currently teaching and pursuing their certification requirements.

Support for the Integration of Academic and Career and Technology Education

The OCTE used the following strategies in 2005–06 to support the integration of academic and career and technology education in South Carolina:

- Fifteen "South Carolina Algebra Classroom" workshops conducted by the SDE gave 425 mathematics teachers hands-on experience in the use of instructional strategies to help students develop an understanding of algebraic concepts. Workshop participants were also

trained to use Blackboard, an online discussion forum that provides networking opportunities and ongoing professional support.

- The OCTE's math specialist conducted three professional development sessions to assist CATE and mathematics teachers with implementation strategies for the 105 occupationally related mathematics problems provided on the South Carolina career cluster mathematics CD. These problems, which represent a variety of occupational areas, were written by teams of CATE and mathematics teachers.

- The SDE conducted a study to determine whether CATE students' academic performance was improved after their mathematics and CATE teachers participated in the career cluster mathematics course, which supports mathematics achievement through contextual problem solving. The results of the study were positive.

- The state's math teachers were able to access instructional videos and other resource materials on the CATE Web site, and the electronic newsletters *Applied Mathematics and Science Notes* and *Algebra Connections* kept teachers informed about relevant issues and initiatives.

- The SDE revised the state's academic standards in science and developed a science standards support guide to assist teachers in implementing standards-based science instruction. This resource, which is available online, includes specific strategies for differentiating instruction, working with CATE teachers to integrate instruction, and helping students make career connections.

- Twenty-one chemistry teachers successfully completed the Chemistry for the Technologies training course, which engaged them in performing laboratory experiments based on actual business and industry applications of chemistry.

- The OCTE staff specialist coordinated the development of lab practicals and lab module answer keys for the Chemistry for the Technologies laboratory modules to enable teachers to increase the use of performance assessments that require students to demonstrate knowledge of the types of chemistry lab skills workers use in business and industry.

- Curriculum materials were developed for mathematics and science inquiry workshops to assist teachers with contextually integrating mathematics and science content, and four professional development sessions on teaching science contextually were conducted.

- Participants in the Anatomy in Clay two-day professional development session received training in creative hands-on strategies to teach the concepts of anatomy and physiology. The material covered in these sessions will enhance the teaching of health science technology course standards that are specifically focused on body systems, diseases and disorders, and normal and abnormal anatomy and physiology of the human body.

- The resource guide *Framing Best Practice: English 2 Curriculum and Instruction,* which is designed to help teachers infuse contextual teaching methods and applications into the traditional English class, is complete. The modules developed for English 1 and 2 will be posted on the SDE Web site so that teachers who were unable to attend the corresponding training sessions will have access to this resource.

Preparation for Nontraditional Training and Employment

Information concerning nontraditional students was disseminated through the OCTE Web site, and an interactive users group for peer assistance and information sharing went live in the fall. During 2005–06, the OCTE used $60,000 in set-aside funds to promote awareness of nontraditional careers for males and females. Nine school districts received competitive minigrants totaling $50,938 to develop programs in support of nontraditional recruitment and retention. The OCTE provided financial support to South Carolina Women Work! in conducting its annual gender equity conference, and funds were also used to assist LEAs with Rosie's Girls summer camps that introduced middle and high school girls to the nontraditional areas of welding, carpentry, electricity, and automotive technology. The OCTE is working with the Silver Crescent Foundation—a South Carolina–based organization dedicated to helping students explore career opportunities in engineering and technology—to promote engineering summer camps across the state. The OCTE staff specialist for gender equity serves on the Palmetto State Registered Apprenticeship Council and the South Carolina Commission for Minority Affairs and is the state contact for the Southeast Regional Equity Advisory Committee.

Supporting Partnerships to Enable Students to Achieve Academic and CATE Standards

The OCTE partners with the South Carolina Chamber of Commerce and businesses statewide to support Business Week, an initiative that contributes to the preparation of young adults for the business environment. Partnerships were also continued with the USC College of Engineering, BellSouth, and other South Carolina–based companies to enhance the pre-engineering initiative, which includes PLTW, Gateway to Technology, and regional robotics competitions. The South Carolina Hospital Association (SCHA)—along with other key healthcare systems—promoted health care workforce development through more than $11,500 in scholarship awards, work-based learning opportunities for students, and education symposia. The Virtual Surgery Insider project, created by the SCHA in partnership with the OCTE, introduced high school students to careers in health care by using real-time technology to link health science classrooms to the real world of hospitals. Through this unique program, over seven hundred students in twelve programs were able to participate in an actual surgery telecast live to their classrooms, during which they could ask questions of the surgeon and the operation-room team.

Serving Individuals in State Correctional Institutions

The South Carolina Department of Juvenile Justice (SCDJJ) and the South Carolina Department of Corrections (SCDC) received Perkins Title I funds on the basis of their designation as special school districts. At the SCDJJ, 609 secondary students participated in CATE courses. The federal funds were used to provide the services of a career guidance counselor, career development materials, staff development, and equipment and materials to expand and improve CATE programs. The SCDC purchased instructional materials, supplies, and equipment to expand and improve CATE programs in the Palmetto Unified School District, which served 1,066 inmate students aged seventeen through twenty-one years in 2005–06. The SCDC also provided financial support for twenty-five teachers to participate in training for industry certification. Inmate students who successfully complete training under industry-certified teachers will be eligible to receive industry certification.

Support for Programs for Special Populations

The OCTE staff specialist for special populations serves as coordinator of the SDE's methods of administration (MOA) evaluation team to ensure that members of special populations are not discriminated against, that career and guidance counseling is equitable, that students are making career choices based on their career interests, that accessibility to programs is provided, and that strategies and support services are helping members of special populations to be successful in CATE programs. Technical assistance and recommendations are provided on the basis of the results of the on-site visits.

B. Permissible Activities

Technical Assistance for the LEAs

Career cluster matrices were developed for all CATE program areas and were distributed on a CD to provide specific course-level examples of high school majors and related two-year and four-year postsecondary options. Teachers in the business, marketing, and information technology (IT) program areas received technical assistance addressing competency revisions, end-of-course testing, Microsoft Office Specialist (MOS) certification, Internet and Computing Core Certification (IC^3), textbook adoptions, and the opportunity for training through the Oracle Internet Academy.

The engineering and industrial technology education (EITE) program staff members conducted professional development sessions to provide teachers and administrators with information on new technology, industry certification, program development and revision, and student organizations. Approximately three hundred architecture and manufacturing teachers attended professional development sessions in 2005–06. The teachers received technical assistance that included methods of restructuring their programs to address new and emerging technologies; development of articulation agreements; implementation of STW activities; national skill standards; and industry/national certification. CDs containing new and revised course standards, along with resources for teachers, were sent to schools.

The health science technology (HST) programs received technical assistance through a professional development conference that provided one hundred teachers with information on the implementation of the Health Science career cluster, updated course standards, instructional materials, and teaching strategies. Fifty-eight health science teachers participated in the health science virtual mentoring program. A state-level committee convened by the OCTE and composed of South Carolina sports medicine master teachers compiled their most engaging and rigorous lesson plans and identified supporting resources for a Sports Medicine 1 and 2 teacher resource guide. This material was disseminated at professional development sessions for teachers and has been posted on the health science Web site.

Family and consumer sciences (FACS) program teachers received technical assistance through regional workshops addressing standards revisions, education legislation, and program changes. A miniconference held in conjunction with the 2006 Summit offered concurrent sessions for FACS teachers. The OCTE partnered with Winthrop University for a third year to offer training to middle school, high school, and postsecondary teachers for the courses Personal Skills 1 and 2. A comprehensive brochure was disseminated as a marketing tool for the FACS program's six pathways in four career clusters: Education and Training (Early Childhood Education); Hospitality and Tourism (Culinary Arts and Hospitality Marketing and Management); Human

Services/Family and Consumer Sciences (Family and Consumer Sciences and Food Science and Dietetics); and Marketing, Sales, and Services (Fashion Design and Apparel Construction and Interior Design).

Eighteen *HSTW* sites and seven *Making Middle Grades Work (MMGW)* sites sent cross-curriculum teams of administrators and teachers to two-day workshops that focused on the ten key educational practices and methods of incorporating these practices into the district/school improvement plans. Principals and district/site coordinators preparing to implement *HSTW* or *MMGW* received technical assistance from the OCTE staff at statewide workshops that included new and experienced sites and at the 2006 Education and Business Summit. Site representatives worked in teams to review and discuss their action plans and participated in discussions focusing on the ten key practices. Nineteen *HSTW* and fourteen *MMGW* sites received written reports following the three-day technical assistance visits by teams of ten to fifteen educators, parents, and community and business leaders.

Improvement of Career Guidance Programs

An OCTE staff member provided training to guidance coordinators across the state to enhance the quality of career guidance. Twenty-five classes were conducted during the year to prepare educators for national certification as career development facilitators (CDFs). As a result of this training, South Carolina has vaulted to second in the nation in the number of educators obtaining the CDF certification. Eight monthly professional development workshops on the subject of career guidance were produced, broadcast, and made available in streaming video by the South Carolina Educational Television Network's Office of Instructional Technology. These workshops featured topics such as career clusters, individual graduation plans, middle school career assessment, and career development strategies to assist school counselors in the statewide implementation of the EEDA.

Support for Vocational and Technical Student Organizations

The South Carolina student organizations supported by the OCTE each received grants of $7,000 to provide leadership and skill development activities. DECA—An Association of Marketing Students, the Future Business Leaders of America, the Family Career and Community Leaders of America, FFA, HOSA (Health Occupations Students of America), SkillsUSA, and the Technology Students Association continued to support the CATE program curricula through skill-building and leadership events throughout the year. The combined membership of these student organizations for 2005–06 was 22,616.

Support for CATE Programs That Address All Aspects of an Industry

The OCTE continued to support career centers and high school administrators and teachers in their efforts to develop CATE programs that meet national skill standards. Increasing numbers of CATE programs and teachers are addressing these standards and are working toward national/industry certification. Approximately 75 percent of the architecture and manufacturing teachers are industry certified. During 2005–06, four hundred sixty Architecture and Manufacturing cluster students were reported as having received industry certification before they graduated. In addition to students receiving industry credentials, five career centers have been awarded the national Accredited Training and Education Facility (ATEF) status for their building construction programs.

Support for Education and Business Partnerships

The 2006 Education and Business Summit, in focusing on the statewide implementation of the EEDA, provided opportunities for business and education professionals to participate in discussions on curriculum alignment with industry and state standards, best-practice presentations, and open forums that emphasized the continuing need to concentrate on academic success, career-technical competencies, and economic development. Approximately one hundred fifty businesses participated in the 2006 Summit.

The OCTE's collaboration with several business partners in the Maintenance and Construction Technology Alliance (MCTA) encourages industry and education groups to build strong partnerships that promote CATE and help students realize their career choices. The MCTA connects trade associations, construction and maintenance industries, and education entities with a central statewide clearinghouse. The National Center for Construction Education and Research (NCCER) partnership with the SDE provides resources to schools, students, and teachers that facilitate extended credentialing opportunities, industry-driven curriculum, and national end-of-program assessments for students.

Partnerships with Certiport, Thomson Learning, and DDC Training Services have enabled IT students and teachers to train and test for the MOS and IC^3 certifications. A continued partnership with Cisco Systems gives students the background they need to take the Cisco Certified Network Associate (CCNA) exam or to articulate credit to the technical colleges to pursue CCNA certification there. Through the partnership with the Oracle Corporation, twenty-three schools and centers offered the foundation course in database management.

Support to Improve or Develop New CATE Courses

The OCTE partnered with the international Festo Corporation to implement Mechatronics Integrated Technologies (MIT), a new high tech program designed to prepare industry technicians for advanced manufacturing, information technology, and maintenance for manufacturing plants worldwide. Standards for the MIT course and the following CATE courses were developed or revised by committees of business/industry representatives and secondary and postsecondary instructors: Electricity, Interior Design, Emergency Medical Services, Introduction to Career Clusters (middle school course), Consumer and Homemaking, Clothing and Textiles, and Masonry. A curriculum guide was developed to support instruction in the Sports Medicine program.

III. DISTRIBUTION OF FUNDS AND LOCAL PLAN FOR VOCATIONAL AND TECHNICAL EDUCATION PROGRAMS

In South Carolina, eighty-five school districts and the two state correctional agencies that operate as special school districts receive initial allocations from Perkins III secondary funds. Eleven independent multidistrict career centers also provide secondary CATE programs, and nine of the LEAs transfer all or a portion of their Perkins secondary funds to support their students who attend one of these multidistrict career centers. The sixteen two-year technical colleges under the SCTCS each receive an allocation of Perkins postsecondary funds. South Carolina has sixteen education and business alliances (Tech Prep consortia) that receive an allocation of Title II funds. All sixteen technical colleges, the eighty-five local school districts, and the school district within the SCDJJ belong to an alliance. Each alliance has one technical college and one or more LEAs as members.

Note: The following required "Accountability" section is submitted as section IV, "Accountability—Secondary Programs," and section V, "Accountability—Postsecondary Programs."

IV. ACCOUNTABILITY—SECONDARY PROGRAMS

A. State's Overall Performance Results and Program Improvement Strategies

Table 1 presents the measurement approaches used for each of the secondary core indicators under Perkins III and the comparison of the actual performance results with the goals established for 2005–06.

Table 1: Secondary Measures and Performance Levels for 2005–06

Perkins Indicator	Measurement Approach	Numerator/Denominator	2006 Goal	2006 Actual
1S1	Academic grade point average (GPA). Data program developed to accumulate, sort, and average applicable GPAs from individual student records and transcript files completed by each high school.	**Numerator** = total number of CIP-coded students (concentrators) achieving a final GPA of at least 2.0 averaged over the year in mathematics, science, and English language arts courses **Denominator** = total number of CIP-coded students	72.21%	76.21%
1S2	Career and technology GPA. Data program developed to accumulate, sort, and average applicable GPAs from individual student records and transcript files completed by each high school.	**Numerator** = total number of CIP-coded students achieving a final GPA of at least 2.0 averaged over the year for all CATE courses they took during the year **Denominator** = total number of CIP-coded students	90.91%	92.75%
2S1	State/local administrative data. Electronic data extraction of individual student records completed by each high school for CIP-coded students.	**Numerator** = total number of twelfth-grade career and technology CIP-coded students attaining a South Carolina high school diploma **Denominator** = total number of twelfth-grade CIP-coded students	95.0%	98.16%
3S1	Locally administered surveys and the annual placement report.	**Numerator** = total number of CATE completers who are placed in postsecondary education, military service, or employment averaged over a three-year period **Denominator** = total number of CATE completers available for placement averaged over a three-year period	95.0%	97.7%
4S1	State/local administrative data. Electronic data extraction of individual student records completed by each high school.	**Numerator** = total number of students of the underrepresented gender enrolled in CATE courses identified as leading to nontraditional training and employment **Denominator** = total number of students enrolled in CATE courses identified as leading to nontraditional training and employment	28.67%	28.67%
4S2	State/local administrative data. Electronic data extraction of individual student records completed by each high school for CIP-coded students.	**Numerator** = total number of CIP-coded students of the underrepresented gender who have completed CATE programs identified as leading to nontraditional training and employment **Denominator** = total number of CIP-coded students who have completed CATE programs identified as leading to nontraditional training and employment	16.77%	18.23%

Analysis of Secondary Results

Performance on the core indicators was assessed for eighty-five school districts and eleven multidistrict career centers, as applicable for the programs offered (i.e., not every LEA was assessed for every core indicator). As indicated in table 1, South Carolina met or exceeded the performance goals for every secondary measure in 2005–06 even though the performance goals were increased by a range of .44 to 20.04 percentage points (a net increase across all goals of 44.91 percent). Performance increased for three core indicators in comparison to 2004–05 performance: academic attainment (up 1.26 points), CATE skill attainment (up 2.02 points), and graduation (up 2.43 points). Performance decreased slightly for three standards: placement (down .11 point), nontraditional participation (down 1.11 points), and nontraditional retention (down .91 point).

Core Indicators—Performance Levels Met

The following are examples of strategies the OCTE used in 2005–06 to improve CATE student achievement for the secondary core indicators of performance:

- **academic attainment—**updating CATE course standards and aligning them with the state academic standards to promote instructional integration; conducting a pilot study to determine whether automotive technology students improve their mathematics achievement as a result of their teachers' implementing the strategies they have learned in career cluster mathematics training;
- **vocational-technical skill attainment—**providing training sessions for teachers seeking national/industry certification and securing active business partners to provide a link to emerging and advanced technology;
- **completion (i.e., graduation)—**developing and disseminating CATE course standards that are aligned with state standards for English language arts, mathematics, science, and social studies and organizing student instruction and experiences around the sixteen career clusters;
- **placement—**continuing business/industry partnerships that promote professional certification for students; expanding opportunities for national certification to help graduates become more marketable;
- **nontraditional participation—**providing LEAs with technical assistance on recruiting and retaining students in nontraditional courses; partnering with the South Carolina chapter of the National Association of Women in Construction to advance the role of women in the state's construction industry;
- **nontraditional retention—**participating in the South Carolina Women Work! organization, which advocates education, training resources, and services for females in the workforce.

LEA improvement plan strategies implemented to improve students' academic and vocational-technical skill attainment included monitoring student competency attainment every nine weeks; providing additional training after school; tutoring students in the basic skills; reevaluating students' career interests for more suitable course placement; providing CATE teachers with staff development in a variety of instructional methodologies such as learning styles, contextual teaching methods, cooperative learning, and methods of integrating CATE and academic instruction; and encouraging CATE and academic teachers to jointly plan curriculum and instruction.

Local improvement plan strategies implemented by school administrators and counselors to improve nontraditional participation and retention included administering interest inventories to assist students in determining personality traits, talents, and interests; developing television commercials, newspaper articles, and billboards featuring students enrolled in nontraditional programs; providing work-based learning opportunities for students pursuing nontraditional career paths; and engaging representatives of businesses and industries that hire nontraditional employees in efforts to promote nontraditional enrollment and retention in CATE programs by serving as members of school or CATE program advisory committees as well as participating in career fairs and other career awareness projects.

Core Indicators—Performance Levels Not Met and Program Improvement Strategies

South Carolina met each secondary core indicator for 2005–06. Under the state improvement plan, individual districts and multidistrict career centers that did not meet one or more of the state standards in 2005–06 will be required to develop a local improvement plan during 2006–07 that outlines activities and strategies to raise student achievement. These local improvement plans will be incorporated into each LEA's FY 2008 local plan, and the LEAs will be required to budget Perkins funds to address state standards that were not met. State-level emphasis on academic attainment for all students and targeted efforts to promote nontraditional participation and retention will continue.

B. Performance Results for Special Populations and Program Improvement Strategies

Analysis of Results for Special Populations

In 2005–06, seven special populations groups were reported for six indicators; however, the "displaced homemakers" group contained less than fifty concentrators (measured by the five students in the denominator for technical skill attainment, which is the closest measure of an unduplicated count). Given the volatility of performance for small populations, this group was not analyzed. Of the thirty-six special populations performance levels that were analyzed, twenty-one met and fifteen missed the state target goals. Core indicators 1S1 (academic attainment), 1S2 (skill attainment), 2S1 (graduation), 4S1 (nontraditional participation), and 4S2 (nontraditional completion) were missed by "individuals with disabilities" and by students with "other educational barriers." Students identified as "limited English proficient" missed three of these same performance targets: 1S2, 4S1, and 4S2. The "single parents" group missed the statewide targets for 3S1 (placement) and 4S2.

The state targets for 1S2 and 2S1 increased by 7.91 and 20.04 percentage points, respectively. Although "individuals with disabilities" and students with "other educational barriers" did not meet the state target for these indicators, the actual performance of these groups improved from the previous year (by a range from 1.6 to 7.6 percent). The performance of these two groups on indicator 1S1 decreased from the 2004–05 level. The .85 percent decrease for "individuals with disabilities" is not particularly significant since it relates to a difference of "1" in the numerator. The decrease of 7.1 percent for students with "other educational barriers" would be a cause for concern were it not for the fact that this particular population is identified on the basis of lower academic achievement. Two special populations groups who performed lower than the state target and lower than last year's levels were "single parents" (3S1 and 4S2) and students identified as "limited English proficient" (1S2, 4S1, and 4S2).

The disaggregated data for "Tech Prep" students, although not a "special population" under Perkins III, indicated that this group of students exceeded the state targets for indicators 1S1, 1S2, 2S1, and 4S2 but did not meet the target or improve on the indicator for nontraditional participation (4S1). The state target for 4S1 was raised by 9.07 points in 2005–06, which is a significant increase over the previous incremental increases of .25 point annually. A three-year average for placement (3S1) of "Tech Prep" students will be available in 2007.

Strategies That Contribute to Special Populations Student Achievement

With most special populations groups now exceeding the statewide targets (and with all the targets being met for 2005–06), the strategies outlined above in section A appear to have had a positive effect overall on student achievement. A continued emphasis on a rigorous academic core and industry-certified technical skill attainment for CATE students across the career clusters has supported increasing achievement rates on core indicators 1S1, 1S2, 2S1, and 3S1 for many of the special populations groups. The nontraditional measures remain the greatest challenges. The statewide emphasis placed on the nontraditional indicators 4S1 and 4S2 for the past several years has contributed to improved performance and led to a considerable increase in the target goals during the 2005–06 school year. Examples of improvement strategies that LEAs identify annually in their local applications are the use of billboards, brochures, and posters depicting students in nontraditional programs or occupations; professional development training in recruiting and retaining students in nontraditional courses/programs; and career fairs where students can interact with individuals who are employed in nontraditional fields.

Possible Barriers to Achievement and Program Improvement Strategies

The special populations data analysis identified several areas where performance lagged and tended to decrease during the past year for students identified as "limited English proficient": CATE skill attainment, nontraditional participation, and nontraditional completion. The large and mobile immigrant population in South Carolina contributes to these results. Statewide professional development on the nontraditional measures will need to further emphasize this population group. Accordingly, state and local CATE administrators will be encouraged to further examine the instructional and guidance needs of this growing population in order to ensure their success in CATE programs.

The lower achievement rates for "single parents" in the areas of placement and nontraditional completion most likely relate to the ongoing burdens and pressures faced by this group with regard to school, work, and family obligations. The OCTE will assist local administrators in identifying and implementing strategies to help this population of students complete program requirements and make successful transitions to further education and work. Recommended strategies include tracking and monitoring of student progress and attendance in order to evaluate and identify potential problems and barriers to course completion; providing support that will enable students to develop survival skills needed to meet their obligations at home and in the classroom; and providing professional development for faculty and staff to promote understanding and support of students who are single parents.

The lower performance of students identified as having "other educational barriers" in academic courses (1S1) and CATE courses (1S2) is a persistent and significant problem. "Students with other educational barriers" include, among others, high school students whose grades are below 2.0 on a 4.0 scale and high school students who have failed to attain minimal academic competencies. This special population is a self-defining group in part; therefore, it is difficult to

demonstrate improvement in their performance on 1S1 and 1S2. A better gauge of progress might be to determine whether the number of students identified in this category *decreases* on an annual basis—as it did, significantly, in 2005–06.

Strategies that will be implemented during the program year to raise the academic and skill achievement of CATE concentrators include monitoring students' academic performance, attendance, and discipline; providing individualized tutoring, after-school programs, and other assistance to improve students' academic and CATE skills; maintaining regular contact with the home, home school, and current teachers; and providing support services such as a job coach, transition coordinator, or teacher assistant to aid instructors and ensure appropriate recruitment and course placement.

C. Definitions

The following definitions apply to the Perkins secondary core indicators for 2005–06:

- A *vocational participant* is a student who is enrolled in a CATE course associated with a career cluster.
- A *vocational concentrator* is a student who has been assigned a CIP code designating a specific CATE program. CIP codes identify students who are pursuing at least 4 units of credit in CATE course work leading to a career goal.
- A *vocational completer* is a student with an assigned CIP code who has earned at least 4 Carnegie units in CATE course work leading to a career goal.
- A *Tech Prep student* is a student with an assigned CIP code who is pursuing the requirements of a career major consisting of at least 4 Carnegie units in an approved, articulated sequence of CATE course work leading to a career goal and the academic courses required for graduation.

D. Measurement Approaches

Table 1 presents the measurement approaches and definitions used for each of the secondary core indicators under Perkins III and the comparison of the actual performance results with the goals established for 2005–06.

E. Improvement Strategies

The CATE student reporting procedures manual posted on the SDE Web site was updated to provide the LEAs with access to current definitions of fields and instructions needed for data extraction as well as current CATE course and program information. The OCTE staff continued their efforts to help LEAs submit complete, accurate, and reliable data. Three regional workshops conducted in spring 2006 covered data collection procedures, deadlines, expectations, and common errors in data reporting. On-site visits were provided for districts having major problems with data collection and reporting. Workshops are planned for spring 2007, given lingering data quality problems, local staff turnover, and stepped-up performance goals.

The OCTE works with the SDE's Office of Technology to ensure that the necessary fields for Perkins III reporting are included in the statewide data collection system. In providing the SCTCS with records of Tech Prep program completers who graduate, the OCTE creates the database the SCTCS uses to report the required postsecondary accountability measures for Tech

Prep students. An added benefit of the shared data will be the ability to identify the characteristics and further achievement of secondary Tech Prep students who continue their studies at the state's technical colleges.

V. ACCOUNTABILITY—POSTSECONDARY PROGRAMS

A. State's Overall Performance Results and Program Improvement Strategies

Table 2 presents the measurement approaches used for each of the postsecondary core indicators under Perkins III and the comparison of the actual performance results with the goals established for 2005–06.

Table 2: Postsecondary Measures and Performance Levels for 2005–06

Perkins Indicator	Measurement Approach	Numerator/Denominator	2006 Goal	2006 Actual
1P1	GPA. Concentrators—excluding students in transfer programs**,** students in two or more developmental education courses, and students not declaring a major—achieving a 2.25 or higher cumulative GPA at the end of spring term.	**Numerator** = total number of concentrators with cumulative GPA of 2.25 or higher at the end of spring term **Denominator** = total number of concentrators in opening fall term	73.91%	71.96%
1P2	Same as above. Technical courses represent approximately ¾ of the program requirements with ¼ of the courses academic.	**Numerator** = See above. **Denominator** = See above.	73.91%	71.96%
2P1	State/local administrative data. First-time, full-time participants graduating within 150% of required program completion time. Transfers and entering military are not counted as completers. Data based on the IPEDS/NCES graduation rate cohort.	**Numerator** = total number of students graduating within 150% of required program completion time **Denominator** = total number of first-time, full-time students enrolled in beginning fall term	14.03%	11.61%
3P1	Administrative record exchange. Graduates/completers employed in related fields within 9 months or continuing education. Data collected by each technical college through local survey.	**Numerator** = total number of graduates placed on jobs related to program of study and/or continuing their education **Denominator** = total number of graduates available for employment	79.98%	81.32%
3P2	State/local administrative data. Graduates/completers remaining employed more than a year after program completion.	**Numerator =** total number of graduates/completers, excluding AA/AS, remaining employed after one or more years **Denominator** = total number of graduates/completers, excluding AA/AS, employed in the first collected quarter after completion	88.36%	87.94%
4P1	State/local administrative data. Underrepresented gender annual enrollment in defined nontraditional programs as determined by the individual colleges from the approved technical college system list.	**Numerator** = total number of males and females enrolled in designated nontraditional programs **Denominator** = total number of students enrolled in designated nontraditional programs	16.72%	16.36%
4P2	State/local administrative data. Underrepresented gender completers in defined nontraditional programs as determined by the individual colleges from the approved technical college system list.	**Numerator** = total number of males and females graduating from designated nontraditional programs **Denominator =** total number of graduates from the designated nontraditional programs	13.97%	14.25%

Analysis of Postsecondary Results

Performance on the core indicators was assessed for sixteen technical colleges as was applicable for the programs offered at the various institutions. As indicated in table 2, South Carolina did not meet the goals for the postsecondary measures for 1P1 and 1P2 (academic and skill attainment), 2P1 (completion), 3P2 (retention), and 4P1 (nontraditional participation). The academic and skill attainment and completion goals were missed by 1.95 and 2.42 points respectively, and retention and nontraditional participation goals were missed by less than .5 point. The state exceeded the performance goals for 3P1 (placement) and 4P2 (nontraditional completion) by 1.34 and .28 points respectively.

Core Indicators—Performance Levels Met

As indicated in table 2, South Carolina met the 3P1 (placement) goal. Over half the colleges met the goal, and the overall performance for this indicator increased by 4.98 points from last year. A large number of graduates either secured employment or continued their education within nine months after completing their program of study, a fact suggesting that the program improvement strategies had a positive impact on students' placement. The system also exceeded the established performance level for 4P2 (nontraditional completion) for the fourth consecutive year—a good indication that students who enroll in nontraditional programs of study are successfully completing the programs.

The following are the improvement strategies that were implemented to promote student achievement during the program year 2005–06 for core indicators 3P1 and 4P2:

- placement—continuing the use of the Kuder Career Planning System career assessments to help assess the workplace readiness of students and connect students with potential employers; continuing to provide online job resources and develop workshops on networking; and
- nontraditional retention—increasing the number of study and test-taking skills workshops and continuing to provide workshops on nontraditional career opportunities.

Core Indicators—Performance Levels Not Met and Program Improvement Strategies

The system goal for 1P1 and 1P2 (academic and skill attainment) was missed by 1.95 points. A large number of students did not achieve a 2.25 or higher cumulative GPA at the end of the spring semester. This fact indicates that student GPA data should be examined more closely at the end of the fall semester and at the midpoint of the spring semester so that appropriate intervention strategies to improve academic success can be implemented.

The following improvement strategies will be implemented or intensified to promote student success for core indicators 1P1 and 1P2 (academic and skill attainment):

- expanding advisement and counseling services to encourage students to enter the programs that are most suited for their skills and abilities;
- implementing study skills workshops to teach students effective methods of studying independently and in groups;
- providing students with academic enrichment and assistance through tutoring and mentoring programs; and

- providing more electronic tutorial software and online research skills training for students.

Indicator 2P1 (completion) was missed by 2.42 points. Students who attend community and technical colleges do not typically move through academic programs in a linear, semester-to-semester fashion. Their attendance patterns may vary due to financial barriers or to external responsibilities related to work or family. It is not unusual for these students to begin taking courses full-time and then reduce their credit load at some point due to their other obligations. Such obligations may also prolong a student's time in technical college because they cause him or her to perform poorly in the classroom and thus to be forced to retake courses. Attendance variations also affect the amount of time such students need to complete their degrees.

The following improvement strategies will be implemented or intensified to promote student success for core indicator 2P1 (completion):

- monitoring each student's academic progress every semester and providing intervention strategies for those students who have a GPA of less than 2.2;
- continuing to educate students on how to find scholarships and complete financial aid applications in order to ease the economic burden of attending college;
- monitoring the files of each student for verification of attendance at scheduled appointments and class meetings; and
- encouraging students to take courses through the South Carolina TechOnline Consortium, which is a system designed to allow students to take SCTCS courses online rather than in a traditional classroom setting.

The system goal for 3P2 (retention) was missed by .42 point. As the economy in South Carolina continues to struggle, it is not surprising that more than half of the state's technical colleges failed to achieve the system goal for employment retention. Due to the economic challenges faced around the state, several of the rural communities have been plagued with significant layoffs and closure of many large manufacturing companies—factors that severely stifle an extremely tight labor market. In 2005, South Carolina's 6.8 percent unemployment rate was the nation's third highest—1.7 percent higher than the national average.

The following are the improvement strategies that will be implemented or intensified to promote student success for core indicator 3P2 (retention):

- continuing one-on-one and group career counseling and increasing the number of students who take the Kuder Career Planning assessments;
- collaborating with business and industry to develop work-based learning opportunities and to examine factors that contribute to job turnover; and
- utilizing curriculum alignment tools to ensure that program competencies coincide with business and industry standards.

Indicator 4P1 (nontraditional participation) was missed by .36 point. Admissions and academic success counselors will continue to inform students of the income potential and career opportunities available in nontraditional career fields. The SCTCS has partnered with the SDE to provide statewide access to the Kuder System, which will strengthen the colleges' ability to identify students who are interested in nontraditional career fields. In addition, the SCTCS

collaborated with SDE to sponsor in November 2006 a day-long nontraditional career fields workshop designed to explore all aspects of nontraditional careers.

The following are improvement strategies that will be implemented or intensified to promote student success for core indicator 4P1 (nontraditional participation):

- increasing nontraditional program awareness through job-shadowing and mentoring programs to better inform students about nontraditional career options;
- enhancing support services that counsel and assist students who are involved in nontraditional programs;
- providing professional development workshops for the faculty to promote understanding of the importance of students' participation in nontraditional programs; and
- expanding recruiting efforts to the secondary level by forging partnerships with high school guidance counselors in an effort to provide early awareness of nontraditional careers.

B. Performance Results for Special Populations and Program Improvement Strategies

Analysis of Results for Special Populations

Two of the seven special populations groups met the system goal for indicators 1P1 and 1P2: "displaced homemakers" and "limited English proficient" students. The system goal for indicator 2P1 (completion) was met by four of the special populations groups: "individuals with disabilities," "single parents," "displaced homemakers," and students with "other educational barriers." The system goal for 3P1 (placement) was met by two of the special populations groups, students with "other educational barriers" and economically disadvantaged" students. The system goal for indicator 3P2 (retention) was met by four of the special populations groups: "nontraditional enrollees," "single parents," "displaced homemakers," and "limited English proficient" students. The system goals for the nontraditional indicators 4P1 (nontraditional participation) and 4P2 (nontraditional completion) were met by two of the special populations groups, "nontraditional enrollees" and students with "other educational barriers."

Strategies That Contribute to Special Populations Student Achievement

Three strategies used by the technical colleges may have contributed to instances in which special populations performed at, or above, the agreed-upon state performance levels: developing mentoring programs to match "nontraditional enrollees" with professionals in the industry; creating job-shadowing programs, with special interest on "nontraditional enrollees," in order to obtain hands-on experience in student's respective fields; and expanding tutoring services to evening hours to accommodate the special populations students.

Possible Barriers to Achievement and Program Improvement Strategies

The special populations data analysis identifies that "displaced homemakers" and "limited English proficient" students were the only groups who met the performance goal for 1P1 and 1P2. Recommended strategies to improve overall performance for all special populations groups include individual tutoring sessions, monitoring students' academic performance, and designing workshops to equip students with the skills that are essential for academic success in college. The "economically disadvantaged" students, "limited English proficient" students, and "nontraditional enrollees" missed the performance goal for 2P1. Colleges will continue to

monitor students' academic performance throughout the semester and will develop intervention plans for those in academic danger.

The data reveal that students who are "economically disadvantaged" and those with "other educational barriers" were the only special populations groups who met the performance goal for 3P1. The system placement rate is largely based upon the number of graduates who complete a graduate follow-up survey. Recommended strategies include holding graduate exit interviews to stress the importance of completing the follow-up survey and calling the graduates who have not returned the survey in an effort to encourage them to do so. The system goal for 3P2 was met by four of the special populations groups: "single parents," "displaced homemakers," "limited English proficient" students, and "nontraditional enrollees." Recommended strategies include expanding the mentoring program to provide students with a wider support network and increasing the number of students who take the Kuder Career Planning assessments.

Two of the special populations groups—students with "other educational barriers" and "nontraditional enrollees"—met the performance goals for 4P1 and 4P2. The colleges have designed job-shadowing and mentoring programs to better inform students about nontraditional career options. The colleges will continue to offer workshops related to nontraditional career fields as well as Web-based tutorial programs, which are available for student access at all times.

C. Definitions

The following definitions are provided as required for the 2005–06 program year.

- A *vocational participant* is a student who has enrolled in a CATE program. Students in the Associate in Arts and Associate in Science degree programs were not included within this category since these programs are general education preparation for transfer to a higher education institution. (Note: The postsecondary core indicators do not include any measures that use the term *vocational participant.*)
- A *vocational concentrator* is a student who has enrolled in a CATE program. Students in the Associate in Arts and Associate in Science degree programs were not included within this category since these programs are general education preparation for transfer to a higher education institution.
- A *vocational completer* is a graduate of a CATE program.
- A *Tech Prep* student is a high school graduate who was identified at the secondary level as a Tech Prep completer and who entered the technical college system and enrolled in a CATE program of study.

D. Measurement Approaches

Table 2 presents the measurement approaches used for each of the postsecondary core indicators under Perkins III and the comparison of the actual performance results with the goals established for 2005–06.

E. Improvement Strategies

For the 2005–06 consolidated annual report, the SCTCS provided all of the general population data for the indicators as a means of establishing consistency in the reporting structure for all sixteen colleges. The data were extracted by the colleges from the Enterprise Decision Support

System, a secure electronic data warehousing and reporting system designed to ensure logical and physical integrity, compatibility, and consistency among files. Historical data are currently being migrated from a mainframe environment to a secure server using HTTP technology with 128-bit encryption. This methodology offers the highest level of data transfer access and security protection supporting both the system office and college users.

The SCTCS continues to review data quality and to streamline the data-collection process to ensure consistency and reliability within the system. This year, the SCTCS implemented a new matrix reporting form that provides a longitudinal view of the activities noted in the colleges' local plans and reports the impact of those activities. Although there is still much work to be done to improve the data-collection process for the annual report, the SCTCS is moving toward making it possible to compare the technical colleges with one another and with other postsecondary institutions in the state with regard to student achievement.

VI. MONITORING FOLLOW-UP

(This section does not apply to South Carolina for the 2005–06 program year.)

VII. WORKFORCE INVESTMENT ACT (WIA) INCENTIVE GRANT AWARD RESULTS

South Carolina received a WIA incentive grant for the two-year period from July 1, 2005, through June 30, 2007. The OCTE and the SCTCS are using a portion of these funds for allowable activities under Perkins III. The OCTE provided $75,000 to PLTW to support the development of the core curriculum for a biomedical and life sciences education program and provided $19,000 to enable Beaufort High School to serve as a beta site for developing an integrated academic curriculum for the biomedical and health science programs. The SCTCS has used $185,965 to purchase site licenses for WorkKeys and Kuder Career Assessment programs for the sixteen technical colleges and to purchase the Kuder system license for all school districts. A total of 68,507 students have completed the Kuder Career Search with Person Match assessment. The technical colleges are working with the school districts in their local service areas to schedule WorkKeys' assessments throughout the fall 2006 and spring 2007 semesters.

VIII. ATTACHMENTS

Copies of the organizational charts and local applications for funding required for section IA and section III will be forwarded as a separate electronic submission. The Financial Status Report, the Vocational-Technical Education Student Enrollment Report, and the Vocational-Technical Education Accountability Report will be submitted with this narrative report through the CAR online database, as required by the United States Department of Education's Office of Vocational and Adult Education.