TABLE OF CONTENTS

PLEASE NOTE: States submitted this content through a survey of three questions. NASDCTEc did not author the content, but did format it for a consistent look, into a single document.

OFFICE OF VOCATIONAL AND ADULT EDUCATION, U.S. DEPARTMENT OF EDUCATION

Accomplishments:

- Success of the Data Quality Institute (DQI) and Clusters Conference, and the collaborative efforts of states and OVAE on standardizing measures and approaches for data collection.
- State CTE Self-Assessment tool was completed and field tested, and a catalog of supporting documentation was developed and webcast training was offered.
- New Consolidated Annual Report (CAR), containing a new clusters enrollment category. Self-paced online training was offered.

Challenges:

- OVAE's challenge continues to be able to effectively demonstrate the positive effects and improvements that are a result of the many excellent career and technical education programs around the country.

Status of Career Cluster Implementation:

Through the College and Career Transitions Initiative (CCTI) under the direction of the League for Innovation in the Community College (League) a partnership has been established linking the League with NASDCTEc. Through this partnership a common career pathway template is being used to develop model programs of study for each of the 81 pathways, found within the States' 16 Career Clusters.

ALABAMA

Accomplishments:

- Adoption of a Career/Tech Strategic Plan that has produced big dividends including:
  1. Recognition by Business/Industry as Emerging Workforce with State Board of Education Adoption of Business/Industry standards for all programs.
  2. Obtaining ISO 9001 certification for the Business/Industry Certification progress of all C/T programs in Alabama, and
  3. Statewide Articulation, Dual Enrollment, Early College Enrollment Program, and High School (Postsecondary) Programs (i.e. High School LPN Program).
- Workforce Development Partnerships which has resulted in a positive return on investment attitude by postsecondary education, and local and state business and economic development partners.

Challenges:

- Funding - Federal, State and Local
- Development of a 21st century Course of Study
- Research Based Data Collection

Status of Career Cluster Implementation:

We will be addressing the Career Clusters in the development of the new Course of Study.
Links: http://www.alcareertech.org/
http://www.alabamatechprep.org

ALASKA

Accomplishments:

- This is the first full year of operation for the statewide Alaska Tech Prep Consortium, staffed by three coordinators to provide technical assistance throughout the state (www.alaska.edu/techprep/). The result has been an increase in the number of school districts and postsecondary institutions participating in Tech Prep and an increase in the number of Tech Prep programs available to students. For example, the Anchorage School District used Tech Prep resources to develop new articulation agreements with seven postsecondary apprenticeship organizations in the construction trades. The Consortium has also piloted the delivery of a distance-delivered medical terminology course to several remote site school districts, i.e. Alaskan "bush".
- The state's Department of Labor and Workforce Development, concerned about upcoming labor shortages in the construction and energy industries, developed an initiative to place six career guides and several student interns in secondary schools; assign several business liaisons to increase business participation and involvement in secondary school career education; and offer grants to improve workforce training for youth. The Department's support for CTE has been a welcome alliance offering cooperative partnerships with a number of school districts.
- Our Department has piloted a new nontraditional occupation (NTO) exploratory program, "Don't Flounder – Get Off The Hook", for teachers and students including web-based resources. Evaluation of the pilot study was promising, and further development is in progress (www.ntoalaska.org).

Challenges:

- Moving programs from alignment to industry and academic standards on paper to alignment in practice is our primary concern for the next few years. This will require a major commitment to support professional development and standardized student assessment, as well as adjustments to state policy.
- Consistency of staff and related professional development is a constant and expensive challenge. The small numbers of staff in any one area make effective and efficient training programs expensive to implement. The remoteness (i.e. no road connections) of many of our schools exacerbates this situation (e.g. how is "hands-on" training done through distance delivery?)
- State fiscal resources to schools and colleges are relatively generous but not earmarked for CTE, and the pressures of NCLB, IDEA, a state graduation exit exam, and retirement and health care program cost increases are squeezing out any funds available for CTE programs. Program maintenance, upgrading and leadership have been noticeably impacted.

Status of Career Cluster Implementation:

- Pam Kirk provided a Career Clusters 101 for local school district and postsecondary CTE program coordinators, plus some guidance counselors and curriculum directors. This helped establish a conceptual framework for local staff who were not familiar with the model.
- Local CTE program descriptions and approvals have been aligned within the career clusters model.
- The Alaska Tech Prep Consortium is taking the lead on providing full alignment information for articulated programs that identify 9-12-postsecondary course selections for academic, CTE and elective courses.

- The largest Community & Technical College has incorporated the career clusters model into its new planning activities.

ARIZONA

Accomplishments:

- CTE Students Achieve Academic Standards-Grades 9-12 (2005 Data Snapshot). AZ CTE Concentrators continue to score above Arizona high school students in Reading and Writing.
  - 68.01% of CTE concentrators passed the AIMS Reading standard compared to 57.9% of the general student population. This is an increase of about 3% from last year.
  - 75.36% of the CTE concentrators passed the AIMS Writing standard compared to 58.05% of the general student population. This is an increase of about 3% from last year,
  - 46.95% of the CTE concentrators passed the AIMS Math standard compared to 54.81% of the general student population. Arizona plans to expand strategies to improve Math scores for CTE concentrators this year.
- Superintendent of Public Instruction makes CTE a priority.
  - Arizona Superintendent of Public Instruction, Tom Horne, made CTE one of his five top priorities for 2005 and continues to demonstrate commitment through Arizona High School Renewal Improvement Initiative.
- Arizona teacher receives prestigious ACTE National Award.
  - Kevin English, ITE teacher at Peoria High School in Peoria, Arizona is the 2006 National Association of Career and Technical Education " Teacher of the Year"

Challenges:

- Arizona continues to face a shortage of CTE teachers. We currently have a state task force identifying crucial shortages and potential alternative certification options.
- The State Board of Education approved a new CTE Delivery System to be implemented in SY 2007-2008. All curriculum frameworks are under revision. Another strategic goal is to institute a system of technical assessments by SY 2007-2008. Current legislation regarding Joint Technical Education Districts is moving forward in the Arizona Legislature to require industry certifications for CTE Courses.
- If the bill is signed by the governor, Joint Technical Education Programs oversight will require the CTE Section to develop new policies.
- Arizona uses Labor Market Information to determine which programs are on the CTE Program List. We anticipate introducing several new comprehensive programs that require a high level of math and science.

Status of Career Clusters Implementation:

Career clusters continue to play a significant role in CTE program curriculum frameworks.

- Arizona is in the process of transitioning to a new delivery system and the career clusters are being used as a resource/reference for identifying tasks for our Measurement Criteria language that will support our newly merged Standards (previously known as Competencies).
- Career clusters continue to be used as a structure to help define the focus and occupations as we update existing and adapt/adopt new CTE programs.

- The Arizona CTE Curriculum Matrix (an academic integration tool developed by International Center for Leadership in Education) identifies various career clusters as a foundation, leading to each of our programs. It helps define the "bigger picture" for individual CTE programs in Arizona.

ARKANSAS

Accomplishments:

- Significantly increased the number of certification assessments administered by instructors.
- In the process of completing the third year of completers' college follow-up data identifying rates of remediation, persistence, and completion of 30 hours in the freshman year by career cluster.
- Successfully met the Bundled Perkins Secondary Indicator since 2000-2001.

Challenges:

- Keeping CTE at the center of high school reform with the legislature and the Governor's Office.
- CTE is acknowledged by LEAs and is an ongoing part of the high school reform activities. We, however, continue to struggle to keep that same recognition in state government.
- Creating valid industry-endorsed assessment question banks for end-of-course assessments
- Utilizing distance learning to offer programs to Arkansas students in all sixteen-cluster areas

Status of Career Clusters Implementation:

Arkansas is making great strides in cluster integration and structure for secondary education, but lacks progress in postsecondary areas:

- Exploring distance learning to offer full cluster options to all students, and
- Moving from occupational-specific to cluster and pathway sequencing

COLORADO

Accomplishments:

- Six regional workshops were held throughout the state by the entire state CTE staff. All topics were covered with quality time allowed in Program Director sessions for all program areas. In the past year, we have had 600 in attendance; many of them were first time attendees who needed training in many CTE areas.
- Provided on-line curricular development tools for teachers/administrators that links the state academic standards, post-secondary competencies, and newly updated curriculum outlines. In agriculture, the teachers can actually build custom programs for local needs. Other areas are in the process of implementing access to this valuable teaching tool.
- Common course numbering of all 13 community colleges is now being accessed by secondary programs for seamless articulation.

Challenges:

- Leadership has changed and we are in the process of re-training staff to meet the needs of the community college system and CTE.
- Audits have been conducted that found we must change some fundamental procedures that require re-thinking our program approval, monitoring, staff resources and grants.

- Keeping Perkins alive and retaining the administrative budget as we add new expectations.

Status of Career Cluster Implementation:

We are not implementing career clusters statewide, but we are sending a team to learn about them at the summer training in Arizona.

CONNECTICUT

Accomplishments:

- The Connecticut Career and Technical Education state administration has developed a process that connects grant application focus areas, program compliance reviews, statewide assessment and professional development. The major focus areas are: alignment to state and national standards, academic integration, work-based learning, and development of CTE advisory boards. Although most of the state sponsored events are made available to all local districts and community colleges, specific workshops are offered for districts that have been identified as needing improvement. The districts identified for needing improvement are those that have not met performance on the core indicators for skill attainment, academic performance and number of student concentrators. This year the graduation rate of CTE students will be added as a fourth criterion. This will move CT Career and Technical Education one step closer to state alignment for NCLB.
- The changes this year to focus and increase eligibility requirements in the CTE grant application has: 1) increased the number of CTSOs throughout all programs, 2) established CTE advisory committees for each local district, 3) established more opportunity for work-based learning and 4) improved postsecondary linkages for Connecticut CTE students and 5) aligned CTE curriculums to state standards.
- Career and Technical Education in Connecticut plays a vital role on the high school reform committee. The CTE members have worked diligently to ensure that career and technical education becomes an integral component of the new high school blueprint currently under development. The expertise in CTE as a provider of authentic, relevant learning and experiences learned outside the classroom are some of the viable contributions to the new high school in Connecticut.

Challenges:

- The number of CTE concentrators is growing by leaps and bounds due to technical assistance and grant application eligibility requirements. The state career and technical education assessment process is currently funded with federal leadership funds. The bureau is currently seeking other funding to leverage the growing number of students who are assessed each year.
- In light of the new federal accountability measures there will be increased responsibility in collecting disaggregated data. Connecticut has recently established a student identification system. For the first time this year, the system will be merged with the CTE assessment system which will eventually replace the current electronic instrument completed by local districts each year. It is anticipated that once the system has been debugged and aligned, the process will benefit local school districts and state administration in collecting more reliable data in an efficient timely manner.
- The Connecticut education philosophy is driven by the challenge to increase academic achievement throughout the state, expanding the number of students matriculating to post secondary education. In keeping with this philosophy, the mission of career and technical

education in the comprehensive high schools is to enhance academic achievement, aligning our CTE programs with high academic standards. Connecticut CTE has developed a linking system of strategies and initiatives to meet that end.

Status of Career Clusters Implementation:

Connecticut has aligned the career and technical education assessment system to the sixteen Career Clusters for secondary education and the community college system. Plans are underway to collect data on pathways currently established statewide, and to identify potential career clusters. Clearly defined career cluster pathways already exist in the healthcare industry, pre-engineering and agriculture education. Students in the pre-engineering high school programs are eligible for 12 credits articulated with two- and four-year colleges. The high school vo-ag course curriculum and related work experience transition students to postsecondary education for programs from horticulture to veterinarian science in colleges offering both two- and four-year degrees. Consortium programs connecting high school students interested in the healthcare industry with local healthcare facilities and career transition pathways leading to postsecondary education have resulted in life changing, career affirming experiences for CT students.

DISTRICT OF COLUMBIA

Accomplishments:

- Within the framework of the Master Education Plan (MEP), CTE has been assigned a unique new role in high school redesign. Along with the International Baccalaureate (B) program and traditional Liberal Arts, CTE is defined as a College and Career Preparation program. The MEP calls for the creation of a citywide college and career preparation system, featuring a thematic program focus at each high school – and the majority of the themes identified represent CTE career clusters.
- Just over three years ago, efforts began to rebuild a citywide CTE system to replace the traditional voc-ed model. DC defines CTE as coherent programs of study at the secondary, postsecondary and adult levels that: a) combine both high levels of core academic rigor and career-specific knowledge and skill; and, b) prepare students for success in both college and high-skills, high-wage technical and professional careers.

Challenges:

- D.C. has a vocational education tradition with very deep roots-predating the 1917 passage of the Smith-Hughes Act.
- High School dropouts in DC – upwards of half of each new generation – face a lifetime o f chronic unemployment, stranded on the margins of the global economy.

Status of Career Cluster Implementation:

The Office of Career and Technical Education is in the process of developing and implementing at least 40 sequential programs of study—Program Majors—grouped into 12 Career Clusters (adapted from the 16 national clusters; see next page). Each of the 40 Program Majors will be offered by least one high school; together they will address all of the six priority targeted-trades sector-based categories identified by the DC Office of Planning and Economic Development: Construction, Health Care, Transportation, IT, Hospitality, and Retail Trade (see Appendix A).

FLORIDA

Accomplishments:

- The development of statewide articulation agreements for 10 postsecondary Career and Technical certificate programs that guarantee college credit for students moving from these programs to Associate of Science or Associate of Applied Science Community College programs.
- The growth and expansion of Career Academies at the secondary level as a key component of high school reform, including state funding for 39 new Academies.
- A statewide marketing campaign initiated by the Commissioner of Education to create public awareness about secondary and postsecondary CTE.

Challenges:

- The impending mass retirement of CTE instructors and administrators; lack of available pool of replacements
- Limited opportunities for CTE instructors to upgrade their knowledge and skills.
- Obstacles to recruitment and retention of students.
    - Secondary CTE programs being replaced with an expanded number of academic requirements.
    - Low unemployment and high demand for employees by business and industry (the good news!) are causing an inverse correlation with program enrollment and completion and are impacting state funding (the bad news!).

Status of Career Clusters Implementation:

- The hiring of a professional staff member specifically charged with the implementation of career clusters within Florida's current CTE delivery system.
- Implementation plans are being reviewed and assessed to determine the impact of the implementation of career clusters on local and state program structure, instructional delivery, reporting, funding, etc.

GEORGIA

Accomplishments:

Because every student in Georgia deserves a rigorous and relevant education that will allow them to compete successfully in the 21st century global economy, the CTAE division has undergone a massive re-engineering process that will better position our programs to provide the quality instruction/curriculum and real-world learning opportunities needed to prepare our students to meet this challenge. Over the last nine months, CTAE has:
- Reorganized our division reporting structure that designates three units. The units include program delivery; program development and transitions; and, accountability and improvement. The establishment of these units will improve student access to an industry aligned curriculum; provide a seamless transition to post-secondary and career opportunities for students; and enhance accountability measures through the creation of standards.
- Hired three new regional CTAE improvement specialists. These three regional specialists will serve the local educational agencies and provide consistent leadership which relays a unified message of enhancing student achievement. Eight other state level positions have been created that will also maximize the improvement of both internal and external state performance.

- Realigned our program areas and curriculum areas to better support the Governor's Strategic Industries and Innovation Centers. By creating a direct connection between secondary school education and the industries identified as key to Georgia's future economic well-being, CTAE can help ensure that all students graduate from high school with the academic and career skills required to succeed in the 21st century workplace.

Challenges:

- Changing the misconceptions of CTAE (work with hands, not the mind; CTAE teachers are not academic; CTAE courses are not necessary if you are going to college, etc.);
- High School Graduation Rule and the American Diploma Project; and
- Building CTAE as integral part of high school redesign as it relates to completion rates and alternative school.

Status of Career Clusters Implementation:

The re-engineering of CTAE's program areas, curriculum and Individual Career Pathways (ICPs) will unfold logically over three years. We have created the following eight CTAE program concentrations encompassing the 16 federal Career Clusters which will include 42 career pathways and end of pathway assessments. They include: agriculture, architecture, communication & logistics, business & computer science, engineering & technology, family & consumer sciences, government & public safety, healthcare science, and, marketing, sales & service. The first phase of our revised curriculum will be completed by October 2006.

HAWAII

Accomplishments:

- Partnership with one of Hawaii's leading business magazines to market Hawaii's six career pathways.
- Partnership with one of Hawaii's leading publishers to market Hawaii's six career pathways.
- Partnership with Hawaii's leading newspaper to market Hawaii's six career pathways.

Challenges:

- Funding for CTE.
- Articulation of programs of study from secondary to postsecondary education.
- Increasing the pipeline of students into career and technical education programs.

Status of Career Clusters Implementation:

Hawaii has organized the 16 Career Clusters into 6 Career Pathways: Arts and Communication; Business; Heath Services; Industrial and Engineering Technology; Natural Resources; and Public and Human Services. Each career pathway is then divided into the core, cluster, and concentration levels. The core has been developed for each pathway. The business advisory groups are now working on the cluster and concentration levels and are at various stages of development depending on the pathway.

IDAHO

Accomplishments:

- Development and implementation of an academic integration course for CTE and academic teachers that will teach them how to reinforce academic skills in existing Professional Technical Education (PTE) programs.
- Continued growth in both secondary and postsecondary PTE enrollments including one-year increases of 8 percent in professional-technical schools, 10% in tech prep and 13% in short-term training.
- Revamping of electronic communications including an improved on-line data entry process for secondary reimbursement, a new short-term/fire service training database and an improved website. (www.pte.idaho.gov)

Challenges:

- Keeping students in PTE programs who are failing NCLB standards.
- Improving statewide articulation for Tech Prep programs.
- Developing an effective data collection method for improving the collection of performance standards.

Status of Career Clusters Implementation:

We have adopted the 16 Clusters and have developed 6 "super clusters" to which these 16 are assigned. We have used the clusters to inform the development of some learning academies. We have also used them to facilitate increased interaction among academic and technical instructors. We are still working to implement various components including revamping administration of programs areas.

INDIANA

Accomplishments:

- Technical Honors Diploma – students are required to:
  - Complete the Core 40 with Technical Honors (minimum 47 credits). To achieve this, students must:
    - Complete all requirements for Core 40
    - Complete a career-technical program (related sequence of 8-10 career-technical credits),
    - Earn a grade of "C" or above in courses that will count toward the diploma, and
    - Have a grade point average of "B" or above
  - Complete the following state-recognized certification requirements. Students must complete two of the options below – one of which must be (a) or (b).
    - (a) Take WorkKeys - an industry-driven assessment - and score a level six (6) or higher in each of the three core readiness subject areas (mathematical reasoning, reading for information, and locating information.)
      The following must be in the career-technical program area of study:
    - (b) Dual high school/college (technical) credit core resulting in six (6) college credits.
    - (c) Professional career internship or cooperative education.

(d) A state approved industry recognized certification**

- We have now established 92 Project Lead the Way Pre-engineering programs.
- Establishing Project Lead the Way Pre-Bio-med programs.

Challenges:

- Meeting our State goal that twenty percent of the CTE dollars are required to be spent on Science & Technology programs.
- Having time to take CTE programs with the increase in graduation requirements.
- Funding: trying to meet increasing costs.

Status of Career Cluster Implementation:

We are taking a close look at the number of clusters. Currently, we have 14 clusters, but most schools, business & industry, and the Governor think that 14 are too many. Over the next several months, we will be taking a close look at clusters.

<center>**IOWA**</center>

Accomplishments:

- Enrollment in career and technical education continues to increase at both the secondary and post-secondary levels. Especially in the programs that have formal linkages between the two levels.   Each year, the number of students that graduate from high school with credits on a community college transcript continues to increase.
- The Iowa Department of Education conducted a survey of all community colleges and high schools to determine the opportunities for industry skills credentials.
- Students enrolled in community college career and technical education programs are experiencing greater success in completing their programs of study than the student body as a whole (52% vs. 42%).

Challenges:

- Value: We continue to be challenged to incorporate new and/or additional content and credentials into career and technical education programs that will be valued by those at the next level in a student's pathway, be it a higher education institution or a prospective employer.
- Inclusion: We are also challenged to increase the enrollment of individuals that are member of groups or a gender that have not traditionally enrolled or completed a given career and technical education program.
- Affordability: Another challenge is to expand the number of opportunities for enrollment in career and technical education without increasing the financial burden on the students participating in the programs. State and federal recourses have not increased at the same rate as costs directly related to developing or offering a career and technical education program, thus tuition rates and the corresponding student debt is increasing at a rate that causes concern.

Status of Career Cluster Implementation:

We are exploring the greater use of career pathways in program development and are studying the approach as it relates to career clusters.

KANSAS

Accomplishments:

- Nursing Summit/Nursing Paper: Staff conducted the "Innovations in Health Science Education" summit and prepared and submitted a report to the Kansas Board of Regents (KBOR) and the Kansas Legislature addressing the critical shortage of registered nurses in the state. The report included:
  - Background information and data supporting the critical shortage of registered nurses in the state;
  - Identified successful strategies and initiatives occurring within the state to attract individuals to the healthcare field;
  - Discussion of the current capacity of programs within the state
  - Identification of barriers precluding program expansion;
  - Initial recommendations to address program expansion barriers and the accompanying costs; and,
  - A timeline for implementation of the proposed recommendations.

  As a result of this information being provided to the state legislature and business and industry partners, some of the following recommendations are being addressed: 1) funding for scholarships for current graduates with a BSN who agree to complete an MSN degree and become nurse educators within the state, 2) funding to purchase additional equipment to reduce the amount of actual clinical time required for the programs, 3) funding of minor facility modifications to accommodate a larger number of nursing students, and 4) establishment of a taskforce to oversee implementation and monitor performance.
- Career and Technical Education Program Quality Assurances: Staff has successfully completed the 5th and final year of technical program reviewed desk audits of all approved secondary CTE programs which has resulted in the:
  - Upgrading of all approved programs to meet the standards addressed in the technical review,
  - Preparation of all local programs to transition to annual assurances aligned to both Perkins and No Child Left Behind, and
  - Development of the local on-site review process to be conducted on a 5-year cycle.
- Program Articulation Projects: Projects in two program areas have been completed that will allow secondary student completers passing industry certifications to matriculate to a two-year associate degree program and/or a four-year baccalaureate program.

Challenges:

- Preparing all local programs and the state systems for the potential new core indicator requirements (i.e., new technical skill assessments, new academic skill assessments alignment with NCLB academic assessments)
- Positioning CTE within high school reform
- Aligning secondary and postsecondary programs resulting in genuine statewide articulation agreements which add value and benefit students

Status of Career Clusters Implementation:

The strategic plan for the implementation of career clusters has been designed and accepted by the coordinating agencies. Working subcommittees comprised of staff from both the secondary and

postsecondary agencies are currently working on the development of Career Plans of Study and Cluster Field Steering Committees.

- The plans of study group is developing career plans of study models that recommend the sequence of courses for various career pathways, which extend from 7th/8th grades, 9-12, and through postsecondary education. These will be working documents for validation by the Career Field Steering Committees.
- Cluster Field Steering Committee group is developing a working model for these committees that will allow multiple levels of business and industry input into the development of the career clusters, program and curriculum design processes, and to advocate for career and technical education.

KENTUCKY

Accomplishments:

- KY-Tech has been accepted for candidacy for accreditation as a statewide district of Secondary Area Technology Centers. When approved in December 2006 we will become the first accredited district of this type in the nation.
- The Office of Career and Technical Education's Secondary Initiatives Branch successfully piloted and delivered electronically the first end of course assessments for technical coursework.
- The Kentucky Virtual Area Technology Center Project successfully enrolled its first students and delivered coursework in IT and Business Education.

Challenges:

- Securing the necessary funding to meet the constant requests for new schools, new programs, and program expansion.
- Working to get an increase in the employee cap in order to help meet the needs listed in the second accomplishment.
- Maintaining fluid communications between the three agencies in Kentucky responsible for Career and Technical Education.

Status of Career Clusters Implementation:

The Kentucky Department of Education uses 14 Career Clusters which were implemented in the late '90's. Under these clusters, career majors were developed and implemented in all KY-Tech schools and high schools in the state.

Each student, beginning in the 8th grade will develop an individual graduation plan (IGP) to develop a course of study for their high school years. This plan must be developed around one of the career clusters.

As part of the Tech Prep Initiative, 4 + 2 plans have been developed throughout the state with the Kentucky Community and Technical College System (KCTCS). These plans have been extended beyond the 2-year stage to include the universities in some areas of the state.

The Office of Career and Technical Education (OCTE) continues to align all coursework with Community and Technical College Curriculum. OCTE is expanding and improving its Dual Credit and Articulation Agreements both in and out of state.

LOUISIANA

Accomplishments:

- Collaboration and increased communication with feeder schools and the technical college.
- Postsecondary eligible recipients worked in teams over several months to develop plans for the submission of a grant proposal to the Department of Labor's Community Based Jobs Training Grant. The proposal that addressed advanced manufacturing and marine transportation was funded. This proposal involved Fletcher Technical Community College, Nunez Community College, LTC-Teche Area and LTC-Young Memorial. The proposal was funded for $3.6 million over a 3-year period.
- Between secondary and postsecondary there were over 161,000 students enrolled in CTE courses or programs. On the postsecondary level approximately 60% of the students are enrolled in career and technical programs.

Challenges:

- Need to increase statewide articulation agreements between secondary and postsecondary.
- Funding for dual enrollment and concurrent enrollment.
- Legislated reorganization of the Louisiana Technical College into Regional Technical Education Centers and their linking with the community college in the region.
- Personnel to monitor and scheduling.
- Development of a funding charter schools being established in the New Orleans area.
- Rebuilding New Orleans. Providing the required training necessary through secondary, postsecondary, and business and industry.

Status of Career Clusters Implementation:

- On the secondary level career clusters has been fully developed.
- Postsecondary has identified five career pathways for development and implementation: Construction, Advanced Manufacturing, Hospitality and Tourism, Healthcare, and Information Technology

MAINE

Accomplishments:

- All of our grant applications are on line and the mid-year and annual progress reports are linked.
- Maine has begun the implementation of its literacy work. Literacy has been a focus for the CTE schools over the past two years. In order to expand literacy activities to all CTE schools, Maine has contracted with the Center for Resource Management, Inc. (CRM) to do two things:
  - "To identify, disseminate and support promising programs and approaches that are currently working in Maine CTE schools to improve literacy, rigor and relevance." In the spring of 2006 the CRM consultants will investigate how six Maine CTE schools are implementing promising practices in academic integration, literacy integration, literacy coaching, remediation/acceleration, and professional development. Once these best practices are documented, they will be available on the www.schoolswork.org web site.
  - "To improve the capacity of Maine's CTE teachers to integrate literacy support into their classroom experiences"

CRM will work with two teachers from twelve CTE schools in each of six CTE program areas (automotive technology, health occupations, computer technology, metal trades, culinary arts, and building trades) to teach them literacy support strategies. CRM will support these teachers while they conduct workshops as mentors to their peers across the state. The mentoring activity will begin in the spring of 2006 and will be followed by a three-day workshop in the summer and a two-day session in the fall. The goal by the end of the 2006-2007 school year is to have at least one teacher in each CTE school who can act as a mentor to the others in his/her school.

- We have developed an evaluation process for ensuring that our new CTE Strategic Plan becomes fully implemented over the next several years.

Challenges:

- Money, time, money

Status of Career Clusters Implementation:

We are involved with the Health Occupations consortium, but have not implemented career clusters.

MARYLAND

Accomplishments:

- In 2005, disseminated CTE pathway programs aligned to Maryland's 10 career cluster frameworks for implementation by local school systems and schools. Increased implementation of state CTE pathway programs aligned to the career cluster frameworks (27).
- Increased CTE student achievement measures for both college and career readiness. Nearly half (47%) of all CTE program completers also met the University System of Maryland entrance requirements.
- Received a $125,000 grant from Citigroup Foundation to conduct the Citigroup Schools That Work Institute for middle and high school teams to implement Maryland's career development model aligned to the career cluster frameworks. These resources represent a 25% increase over the previous year.

Challenges:

- Ensuring full implementation and quality assurance of all CTE pathway programs (i.e., professional development, resources, equipment, student and program certification, qualified teachers).
- Providing an in-depth analysis of special populations data and leveraging the resources to improve the performance outcomes of special populations students; and
- Documenting academic and technical achievement of CTE students.

Status of Career Clusters Implementation:

Maryland designed and implemented 10 career clusters starting in 1995. The publication titled *Maryland Career Clusters: Restructuring Learning for Student Achievement in a Technologically Advanced, Global Society* has been widely distributed for use in developing CTE pathway programs, creating small learning communities, and improving the quality of existing CTE programs. The career cluster frameworks and CTE pathway programs are integrated in the career development framework to encourage systemic

implementation at the local level. The document is currently being updated to reflect the secondary and postsecondary partnership and will be released in its second edition.

MASSACHUSETTS

Accomplishments:

- Development of the Vocational Technical Education Curriculum Frameworks.
- Establishment of a vision shared by the career/vocational technical education community for career/vocational technical education.
- The beginning of the development of the assessment system for the award of the Massachusetts Certificate of Occupational Proficiency.

Challenges:

- Attracting qualified staff to work in the Massachusetts Department of Education Career/Vocational Technical Education (CVTE) unit.
- Providing future CVTE school administrators with administrative preparation programs.
- Educating the public about career/vocational technical education.

Status of Career Clusters Implementation:

Massachusetts has established ten career clusters and they are widely accepted. Each Vocational Technical Education Curriculum Frameworks contains cluster knowledge and skills.

MICHIGAN

Accomplishments:

- Career and Technical Education is an active partner in high school reform efforts in Michigan. There is representation of CTE on the seven subcommittees working on implementation strategies in the following areas:
    - High School Course Content Expectations – increasing the rigor of academic coursework and recognizing CTE courses as a strategy to provide relevance to the curriculum.
    - Assessment – issues related to the change from our Michigan High School Test to the ACT to align testing to college entrance requirements, which will have an impact on the calculation of academic achievement for the Perkins CPI's.
    - Student Support and Intervention – ensuring that all students have access to and the ability to succeed in a more rigorous high school course of study, particularly our special populations students.
    - Outreach and Communications – getting the message around the state about the importance of rigorous courses of study which includes changing the traditional perception of CTE.
    - Professional Development – to assist teachers and administrators to meet the higher requirements and to assist CTE teachers to increase academics taught in CTE coursework.
    - Secondary/Postsecondary Transitions – strategies to increase successful college transition, which include dual enrollment and Tech Prep program articulation and is being piloted with academic courses

- o Promising Redesign Practices – to research and disseminate information about effective high school models, including Technical Education Area Centers
- We have been working with three Career Cluster Task Force committees made up of CTE educators around the state. We are developing lessons and activities for the cluster foundations skills in Architecture/Construction, Human Services and Arts & Communications.
- We continue to make many positive quality improvements in our educational programs statewide through our Technical Assistance, Review and Compliance activities (a.k.a. on-site monitoring). Local districts are very nervous before we arrive on-site, but are very pleased once we have completed our review – not because it's over, but because we stress technical assistance and offer as much help as possible. The visits have been such a success; evaluations frequently contain statements urging us to continue to do the on-site visits.

Challenges:

- The Michigan Senate and House of Representatives have recently passed laws that would change high school graduation requirements in Michigan from ½ credit of Civics, to 16 mandatory academic credits (including math to the level of Algebra II). This has caused grave concerns from the community that the number of credits will crowd out the opportunity for students to select CTE programs of study. We are in the process of developing a process that will allow the academics in CTE to be recognized as meeting part of the mandatory academic requirements. We have begun with the model used by our colleagues in New York.
- The collection of valid and complete Tech Prep student data continues to be a challenge at the postsecondary level. This spring, we will be pulling together all 25 Tech Prep Consortia to come up with an immediate solution to the data collection dilemma per consortia. We hope that the implementation of a K-20 student data base, which is a goal of the Governor, will help to eliminate this problem statewide; however, with the pressure from the USDOE to provide the data, the consortia need to move quickly to find a resolution.
- With the approval of a mandatory (college preparation) academic curriculum and higher-level content expectations for students, CTE teachers will need support and professional development. We anticipate a great need for information on curriculum integration – especially in the area of numeracy and literacy.

Status of Career Clusters Implementation:

- All CTE programs were required to align their curriculum to the career cluster foundations skills by September, 2005.
- We are funding competitive grants to assist the community colleges in the state to implement the career clusters into their programs.
- Our Tech Prep Articulation Agreements use the career clusters for curriculum alignment purposes.

<p align="center">**MINNESOTA**</p>

Accomplishments:

- **Data Management:**
  - o <u>Post-secondary</u>: A data book has been developed covering the FY2002, FY2003 and FY2004 for each of the 30 Perkins-eligible colleges within the Minnesota State Colleges and Universities System. The data book is now being used in the development of the FY2007

local Perkins Plan. Additionally, the data book could be used to obtain trend data for all indicator and sub-indicator performance levels.

- o Secondary: Continued refinement of the state's data collection system on CTE participation and performance has permitted a more comprehensive reporting of CTE activity at the secondary level.
- o Tech Prep: Tech Prep and Perkins leadership funds are currently being used to develop several regional electronic and web-based systems to account for Tech Prep credit certificates and exploring ways to share such information between secondary and post-secondary. In program year 2006, a process will be in place for estimating how many secondary Tech Prep students enter post-secondary education within the Minnesota State Colleges and Universities System.

- **Program Quality:**
  - o Secondary: To bring consistency, in the absence of state secondary curricula, a state program approval rubric has been developed. Minnesota Rules require districts to gain state approval of their secondary CTE programs in order to utilize designated federal or local resources. The Department has developed a new rubric for program approvals that examines the complexity of CTE programs under seven topic headings. Beginning in 2006-07, districts will use this rubric as a monitored self-assessment tool each time they submit programs for state approval or for program re-approval on a 5-year cycle.
  - o Post-secondary: In anticipation of a reauthorized Perkins Law, the Office of the Chancellor Perkins Unit used its annual accountability and monitoring visit of each of the 30 Perkins-eligible colleges to lay out the accountability requirements that will be integral to Perkins local application plan development under the new law. A short follow-up survey was sent to each college requesting feedback of the visit. While information is still being collected, in general, the colleges were appreciative of the visit since they were able to obtain more comprehensive information about the future of Perkins.

- **Partnerships:**
  - o Secondary: Through the state's receipt of a grant from the National Governors' Association that focuses on Science, Technology, Engineering and Mathematics (STEM) issues, and through a department reorganization that places CTE with the group addressing academic standards and high school reform, the movement towards including CTE within secondary high school reform initiatives has progressed significantly in Minnesota.
  - o Post-secondary: At the post-secondary level, funding, through a competitive process, has been provided to seven colleges to develop specific methods and procedures to reinvigorate advisory committees. Among the strategies that have been suggested include: (a) using virtual technologies to convene advisory committees, particularly for colleges where advisory committee members are located in areas in which the students are applying for jobs; (b) developing the appropriate roles and responsibilities of advisory committee members for programs, such as biosciences and biotechnology, where expertise and interests are much more diffused; and (c) using the advisory committee structure to focus on areas which have received prominence in the upcoming Perkins legislation such as career pathways.
  - o Secondary-Post-secondary Collaboration: The Minnesota Department of Education and the Minnesota State Colleges and Universities System jointly continue to support the development and implementation of *Project Lead the Way (PLTW)* in Minnesota through the use of Carl D. Perkins State Leadership funds. Additionally, a close collaborative relationship between the University of Minnesota, Minnesota State Colleges and Universities, and the Minnesota Department of Education is now in place to promote *PLTW* in Minnesota in a variety of ways. As a result, over 100 schools and school districts offer *PLTW* courses and more are on the way. Post-secondary faculty and high school teachers are enrolling in Summer 2006 institutes at various sites all over the country including the University of Minnesota, the *PLTW* National affiliate.

Challenges:

- **High School to College Transitions Accountability Framework:** A major stumbling block for developing a comprehensive high school to college transition accountability framework is the inability to connect secondary and postsecondary data. In turn, the lack of broad-based high school to college transition data and information continues to be a challenge for Minnesota to determine Perkins program effectiveness and quality, particularly in the light of the impending reauthorization of Perkins.
- **Program Quality:** A current challenge facing Minnesota Perkins is developing strong accountable inter-relationships among the data, local application procedures, recommended strategies and specified outcomes regarding student achievement. This lack of connectivity across Perkins programming is most apparent for under-represented students, specifically at the postsecondary level.
  - o Crowding of the high school day by new academic requirements is making it difficult for students to participate in CTE programs. In addition, when CTE courses could be offered, by restricting the awarding of academic credit through CTE due to licensure and Highly Qualified Teacher provisions in No Child Left Behind, CTE participation is reduced even more.
  - o Other challenges include specific targeted strategies to improve education outcomes for under-represented students; and, maintaining program quality within the variety of ways (which includes Tech Prep) in which Minnesota students transition from high school to college.
- **Adequate Resource Maintenance:** Inconsistent funding streams due to state budget problems and the recommended elimination of Perkins in the federal budget, makes long-range planning for Perkins more uncertain. As federal and state funding becomes scarcer, tapping into federal and state non-governmental resources for CTE will become even more challenging.

  A growing shortage of teachers, particularly in critical areas such as Mathematics and Sciences, and also certain CTE fields like allied health services and engineering technology, and the professional development of existing teachers to ensure that they keep abreast of a changing dynamic economy, will be an immediate challenge that would need to be taken up not only within Perkins but statewide as well.

Status of Career Cluster Implementation:

As a state we are just beginning to explore career clusters as an organizational structure for developing career pathways. Initial discussion has occurred, but there is a general "wait and see" attitude since Minnesota, like other states, is awaiting further guidance under a reauthorized Perkins Act. Currently, career clusters are used for data collection and organization within secondary and post-secondary Perkins databases.

MISSISSIPPI

Accomplishments:

- Alignment of statewide curriculum frameworks with national standards and industry certification,
- Providing academic credit for selected career and technical courses, and
- Development of a statewide assessment system for all CTE programs.

Challenges:

- Funding to upgrade equipment, fund certification exams for students, and to support professional development activities.
- Difficulty overcoming the general public's view or mindset of vocational education or CTE is a major hurdle. This includes a general lack of respect between academic and CTE educators that prevents a united front to students and parents. There is an urgent need to work together as academic and CTE educators for the success of all students.
- Locating suitable standards or certification programs for secondary CTE programs.

Status of Career Cluster Implementation:

Through the Tech Prep Initiative in Mississippi, career exploration and educational planning have been embedded into our three discovery program curricula at the middle school level – Career Discovery (7th grade), Computer Discovery (8th grade), and Technology Discovery (9th grade). However, the issue of Career Clusters and Career Pathways needs to be more fully implemented and marketed statewide.

However, recently the Bureau of Compliance and Reporting and the Tech Prep Office collaborated their efforts to provide a Career Clusters workshop. This event is scheduled for February 23, 2006 at the Mississippi Department of Education in Jackson, Mississippi. Kim Green, Executive Director of the NASDCTEc will be leading this workshop. All three levels of education in Mississippi will be present at this workshop to provide input related to the implementation of career clusters and career pathways. Hopefully, this experience will assist us with developing an implementation plan and prepare us for writing our next state plan.

Mississippi has implemented cluster programs at the secondary level in Allied Health, Vehicle Mechanics, Metal Trades, Construction Trades, and Technology Education (Technology Applications). Our Agricultural and Environmental Science and Technology program uses a modified cluster approach. Mississippi is using the Skills and Knowledge statements from several of the NASDCTEc Career Cluster documents as standards for alignment of curricula. Mississippi has also implemented awareness in the 16 Career Clusters at the 7th, 8th, and 9th grade levels to increase relevance for learning academic skills. Applied instructional training for academic and vocational teachers has increased teacher awareness of rigor and relevance in all program areas, as well as academics.

MISSOURI

Accomplishments:

- The Division finalized its 5-year strategic plan. The strategic plan focuses on student achievement, teacher quality, school readiness, school completion, and workforce readiness. There will be an emphasis placed on accountability, professional development, and knowledge development. There will also be emphasis on connecting CTE to high school reform, high-demand occupations, distance learning, and workforce development through increased collaboration.
- Missouri is continuing its work with Nebraska to develop single-point access websites that offer lifelong career development. The websites will be for all ages and will provide career guidance and management assistance through a high-quality, integrated system that includes assessment, occupational and educational information, course planning, job-seeking, and placement tools. Both states will have specific customization available as well.

- The career-technical student organizations (CTSO) developed a school/community service project entitled *RACE Into Reading – Reading About Career Experiences*. The project provides opportunities for the CTSO members to promote reading as fun and for elementary students to learn about career opportunities. The CTSO members can also be positive role models for these elementary students. Information about the *RACE Into Reading* project can be found at http://dese.mo.gov/divcareered/RACE_index.htm.
- The Division finalized two statewide articulation agreements last fall for Automotive Technology and Cisco Networking Systems. There are five additional statewide articulation agreements currently being developed for the following programs: Building Trades; Culinary Arts; Graphic Arts; Heating, Ventilation, Air Conditioning, and Refrigeration; and Welding Technology. Information about the Automotive Technology and Cisco Networking Systems articulation agreements can be found at http://dese.mo.gov/divcareered/.

Challenges:

- Implementing a data-driven strategic plan will be a very different way of doing business in the Division. We are data rich and information poor. It will be important to provide Division staff the professional development they need to implement the plan in their respective sections.
- The Department is developing guidelines and procedures for school districts that want to award academic credit through embedded credit. The Division of Career Education is taking the lead in developing the embedded credit guidelines and procedures. Then, it will be possible for students to qualify for academic credit if they demonstrate that they have mastered the competencies through an assessment.
- The 2006-07 school year will be the first year of the fourth cycle of the state's school accreditation program. The Division will be using the Perkins accountability measures for the accreditation process. This should help the school districts in a consortium better understand the importance and accuracy of data when providing it to their fiscal agent.

Status of Career Clusters Implementation:

The Division revised its Career Cluster paper to show some of the progress being made in implementation. Most of the progress has been made in moving to a common definition of a "completer," instead of three different definitions. The definition of a completer will be a student who earns three or more units of credit in approved occupational secondary career and technical education programs (within a "sequence of courses") and graduates.

MONTANA

Accomplishments:

- A state wide Career Clusters Conference was held in October with 180 persons attending including representation from Wyoming and Idaho.
- A state wide Career Clusters Steering Committee is working to further the clusters effort throughout the state addressing: Secondary/Postsecondary alignment issues; and, career guidance and professional development.
- Montana was one of 13 states receiving the WIRED grant   (Workforce Innovation for Regional Economic Development). This   grant has specific focus pathways development in occupations related to biotechnology and bioenergy.

Challenges:

- Enhancing the image of CTE as a viable option for students at both secondary and postsecondary levels;
- Ensuring that CTE is an integral component of high school reform; and,
- Expanding dual enrollment to facilitate transition between secondary and postsecondary education.

Status of Career Clusters Implementation:

- Development of an additional health sciences model with specific emphasis on mentorship and industry participation.
- Establishing a strong leadership structure for further development of career clusters
- Establishing state interagency cooperation to further career clusters development.
- Mapping multi source funding for developing career clusters statewide.

NEBRASKA

Accomplishments:

- **Expansion of *FutureForce Nebraska*®**
  FutureForce Nebraska® is a collaboration of K-12 Education, State Departments of Education, Labor, Health and Human Services, Economic Development, Workforce Investment Boards, Business and Industry, representatives from 2- and 4-year private and public colleges/universities, and private career schools in Nebraska. It is directed by an executive board of representatives from the above listed partners. Rich Katt serves as the Chair of the Executive Board while several staff members from the career education staff at the Nebraska Department of Education help with the specific pathway development. The purpose is to develop career pathways that align and articulate curriculum to the economic development initiatives of the Department of Economic Development. Pathways have been created or under development are: Health Sciences, Manufacturing, Construction, Entrepreneurship, Transportation, Distribution and Logistics, and Biotechnology. Pilot projects are underway with both secondary and postsecondary schools/colleges to further develop the curriculum and articulation.
- **Continued Development of the Nebraska Career Management System**
  We are currently pilot testing the new Nebraska Career Management System in a number of schools and community colleges, as well as with Nebraska Workforce Development Offices. When complete, the system will provide the complete spectrum of career awareness, exploration, planning, and management tools and information to serve Nebraskans from PK-adult.
- **The Implementation of Personal Learning Plans for all Students**
  Our new school accreditation rule will require all students to have a Personal Learning Plan (PLP) developed by the end of the eighth grade year. The plan is built on Nebraska's Career Field/Cluster system. Students identify their career goal based on our career fields/clusters and map out their secondary and postsecondary course plans. The strong career planning component of the PLP and alignment to our Nebraska School Counseling Model helps bring together academic and career education for effective planning.

Challenges:

- Human resources are needed, in order to continue to make the needed changes as we transition to our Career Fields/Clusters model. Especially, the staff so they are able to provide technical assistance to schools/community colleges needing assistance to transition.
- Alignment of tests/certifications/assessments used to determine vocational skill attainment.

- Increased academic requirements for high school graduation and college entrance limiting the number of elective courses, including career education, which high school students can take.

Status of Career Clusters Implementation:

Nebraska's new school accreditation rule will require all schools to report courses using the new Career Fields/Clusters Model beginning in the 2007-2008 school year. Community Colleges are cross-walking their instructional offerings to match the new model. Our Cooperative Extension/4-H program is aligning their curriculum and programs to the Nebraska Career Fields/Clusters Model. We are getting closer to the model being the common language of career development in the state. Schools across the state are developing pathways and academies using the Nebraska Career Fields model.

<div align="center">

NEVADA

</div>

Accomplishments:

- The CTE Director was a member of the leadership team that developed Nevada's state plan for high school reform, Nevada's Blueprint for High School Improvement, as well as the Department of Education's State Improvement Plan. CTE was recognized for its outstanding accomplishments and these accomplishments, along with the supporting data, were infused into both plans.
- The utilization of a strong accountability system highlighting CTE students' successes was one of Nevada's top accomplishments. The annual dropout rate for CTE students for FY03 was 1.7% as compared to the state's overall dropout rate of 6.0%. Nevada's CTE students' graduation rate was near 80%, and the overall graduation rate was 75%. In the fall of 2004, 53.5% high school students enrolled in CTE courses were concurrently enrolled in Tech Prep courses. These students could earn up to 15 college credits through Tech Prep, thus easily transitioning from secondary to postsecondary education. Without the above statistics, CTE would not have received the $2,000,000 in supplemental funding for the biennium from the 2005 legislative session. Prior to 2005, the state did not provide line item funds to school districts for CTE programs. Districts opting to fund CTE programs used Perkins funds, state distributive school assistance funds, and local contributions.
- Nevada continues to develop and update CTE standards and curricula for program improvement and rigor. All skill standards are cross-walked with the state's academic standards. Employability skills are also included in all standards.

Challenges:

- There is a lack of line item state funds authorized for local CTE programs. While CTE received $2,000,000 for the biennium during the 2005 session, there is no guarantee that the state legislature will reauthorize these funds for the next biennium in the 2007 session. The CTE Office must continue to gather valid and accurate CTE data and use it to highlight the successes of CTE students.
- The CTE Office does not have a Health Education Consultant. There is a need for more health education programs in Nevada schools; therefore, the CTE Office has been targeting reserve funds to grow health education programs in rural areas for the past three years. The responsibility of overseeing the health education programs has been added to an already overworked Career Education Consultant. The Department of Education requested a Health Education/School Nurses Consultant during the 2005 session, but it was deleted in the

Governor's budget. On the positive side, new health education programs are increasing in the state.

- Garnering support for the Nevada Association of Career and Technical Education (NACTE). For the past three years, a concerted effort has been made by CTE staff to increase the membership. While progress has been made, the NACTE still needs more membership from statewide CTE instructors. NACTE is important in Nevada, because it is a major vehicle for the delivery of professional development for CTE educators in the state.

Status of Career Clusters Implementation:

Nevada first introduced career clusters at the NACTE Summer Conference in 2005. Since the introduction, the frequency of activities has increased steadily. The following activities are currently underway by CTE staff to implement the career clusters:

Statewide Awareness Presentations – Presentations on the pHands-on Demonstrations Including Administration of the Career Cluster Inventory Instrument have and will continue to be offered by CTE staff to interested parties, including: administrators, counselors, and career center staff. Over four hundred inventory instruments have been administered statewide. At each presentation, time has been set aside allowing the groups to reflect and share their own particular career clusters and the relevance on their current or future career plans.

Technical Assistance Workshops – CTE staff have been systematically training district staff, counselors, and educators on how to create their own career cluster student handouts. These handouts include graduation requirements and course offerings unique to each school district. In most cases, these worksheets are prepared in advance by CTE staff and introduced to educators during the workshop. This allows individuals from each district to create and take ownership of their career cluster student handouts. All school representatives leave the workshop with their own CD, which includes all of the career cluster pathway brochures, outlines, and custom designed student handouts unique to their schools.

Encourage Feedback from District Staff - In order to improve the implementation of career clusters statewide, the CTE office continues to elicit feedback from educators concerning topics ranging from obstacles hampering implementation to best practices.

Professional Development – Individuals from districts statewide, including CTE staff have and will continue to attend the national conferences.

Utilization of Marketing Tools – In order to elicit student buy-in on career clusters, the CTE Office will purchase laminated poster sets which depict both gender and ethnicity equality in the various career clusters. These poster sets will be displayed at various high school career centers throughout the state.

NEW HAMPSHIRE

Accomplishments:

- At the Department of Education, the Career Development Bureau reorganized so that professionals within the Bureau were assigned one of the career clusters (NH recognizes all 16). As part of that reorganization, Tech Prep directors in the state were brought in to be part of this reorganization. The result of this organization is that there is now an individual at the state level responsible for creating connections between secondary and postsecondary programs that fall within their assigned cluster throughout the state. This was accomplished by significant planning,

a major state retreat and many follow-up meetings to move the work forward. State level professionals are now assisting regional centers and postsecondary institutions to develop articulation agreements which may include Running Start, or articulated credit, or both.

- A major conference was held in the state to assist many stakeholders to understand the concept of career clusters, career pathways and New Hampshire's career planning guide. This conference was a kick-off for future, more in-depth implementation of clusters, pathways and the planning guide. A primary target for career planning for students will be middle school personnel.
- This spring, this coming fall and next spring, the instrument *Accuplacer* will be used by CTE students to evaluate the reading and math skills that students possess when they come to CTE, and their skills when they have completed two years of CTE. This is a pilot to see if it meets the needs we have identified in the state. The Community Technical College System uses *Accuplacer* for admissions. The use of this test will help students see where they are as juniors if they are planning on attending one of the colleges in the system. It will also help counselors guide students to appropriate courses to improve their math and reading before finishing high school. Lastly, it will help us evaluate if CTE might have an impact on academic performance and thus looking at the academic rigor of CTE.

Challenges:

- The lack of understanding toward CTE by other educators. The stigma that the term vocational education use to have still prevails in parts of the state. Consequently, programs are still thought to be for lower performing/functioning students. This is changing as the rigor of programs coming into the state increases, e.g. *Project Lead the Way*, biotechnology, robotics, etc. Helping educators and others to understand that our programs are no longer vocational education, but career and technical education with pathways to various postsecondary opportunities is a major marketing challenge.
- Building statewide articulation agreements with our Community Technical Colleges is extremely difficult. All of the colleges (7) are part of a system but function independently with different programs, admission requirements, etc. A statewide articulation agreement is almost complete for early childhood education. This has been in the works for 2 years.
- It is a struggle to have CTE fully integrated into the discussion of high school redesign and the discussions around the new state approval standards. Certainly, CTE is making some headway towards this integration compared to where things stood one to two years ago, but CTE still has a long way to go to be fully integrated into the discussions. However, the governor just had a statewide summit to address the issue of raising the drop-out age from 16 to 18. Stakeholders from various groups attended the summit. The primary format was to have people break out into 8 groups to discuss 8 different topics addressing this major issue. The report out of the groups was gratifying because several groups mentioned CTE as being part of the solution for keeping students in school and keeping them engaged.

Status of Career Cluster Implementation:

- As mentioned above, at the state level, work and responsibilities have been reorganized around the concept of career clusters.
- NH recognizes all 16 national Clusters.
- People coming into the profession of teaching in CTE are now certified by the career cluster groupings.
- Present movement to instruct middle schools on the concept of career clusters, pathways and the career planning guide, so that teachers and guidance can work with each student to create their

pathway of courses leading to a high school programming that truly prepares them for the next step after high school.
- Local schools are organizing CTE program offerings into career clusters. Many programs of study organize courses into career clusters.
- NH can generate data by career clusters.

NEW MEXICO

Accomplishments:

New Mexico's top three CTE 2005-2006 accomplishments consist of an overall accomplishment of New Mexico using CTE to assist in improving high schools and two-year postsecondary institutions:
- The move from vocational education to career-technical education has been exciting. The Governor's Office of Workforce Training and Development, the Chief Academic Officers from our two-year institutions, the Department of Labor, the Economic Development Department and many other stakeholders have really embraced the move. This has resulted in secondary and postsecondary faculty and staff communicating on a very different level then they ever have before.
- The use of the career clusters, among other items, to redesign the reporting of expenditures for CTE around the career clusters – this will be fully implemented during the 2006-2007 school year.
- The redesign of our data collection system at the secondary level around the career clusters – we are piloting it this year. The postsecondary institutions are scheduled to begin this conversation in April 2006.

Challenges:

- The belief that ALL students can succeed;
- The belief that ALL students can succeed; and
- The belief that ALL students can succeed.

Every time we meet with educators there is always this doubt when it comes to certain students – as adults we send messages to students that they are incapable of accomplishing success and we don't even know we are doing it. The message that all students can succeed when the environment is right is one we continue to communicate through our value statement: "*We value student empowerment academically, occupationally and socially.*"

Status of Career Clusters Implementation:

Career clusters continues to move quickly in New Mexico. With the support of the Governor's office, the Department of Labor, the Economic Development Department, the New Mexico Business Roundtable, the New Mexico Association for Community Colleges, the Legislature, and others, the need to organize CTE around career clusters has now become an urgent endeavor. Those educational entities who are direct recipients of the Carl D. Perkins Vocational and Technical Education Act funds are moving the quickest – those not receiving funds are calling and asking how to access the funds because New Mexico has no earmarked state funds for CTE. A next step will be, as our High Schools That Work Sites are realizing, that we need to really assess our schools, secondary and postsecondary, and continue to support only those programs which add value to the high school diploma and the degree plan.

NEW YORK

Accomplishments:

- New York had the pleasure of a program review from OVAE last July. The process was cordial and the results were constructive. The four findings were quickly rectified. We automated the program review sheets and linked their questions to specific web pages. This greatly reduced the amount of paper that had to be pulled from files.
- We are beginning the process of re-approving the first CTE programs that were processed under the 2001 Regents Policy on CTE. Students completing an approved program, passing all required Regents examinations and a technical assessment can obtain a "technical endorsement" on their high school diploma. The program approval process has significantly improved the academic and technical content level of CTE programs and student participants are graduating at a higher rate than the general population. Programs must be re-approved after 5 years to assure that they continue to meet academic and industry standards.
- We have opened our CTE Resource Center. Operated under a contract with the *Questar III BOCES*, the center is intended to assist our limited State staff in the delivery of technical assistance and staff development to programs that have failed to meet Perkins performance levels. Center staff is already working with schools to update curriculum and improve data collection.

Challenges:

- Continuing to integrate high-level academics into CTE programs while maintaining the availability of such program for all students. We are working with our Office of Vocational and Educational Services to Individuals with Disabilities (VESID) to assure that all students have access to programs.
- Improving data collection through the new departmental student record system. This system, which will be activated for the upcoming school year, should provide us with greater flexibility in collecting data. However, as with any new massive data system (3 million students), there will no doubt be glitches to be ironed out.
- Recruiting high-quality CTE teachers. As our system grows, there is a need for more qualified CTE teachers who can also deal with the increased academic content and the special needs of many of our students.

NORTH CAROLINA

Accomplishments:

- Secondary CTE has embarked upon a complete overhaul of curriculum using the *Revised Bloom's Taxonomy*. Dr. Lorin Anderson, Chief Editor of the Taxonomy, is providing consulting services as state staff and curriculum teams revise curriculum guides, course blueprints, instructional management item banks and accountability item banks. The first twelve of over one hundred courses are being revised for release in July 2006. This multi-year project will provide a much needed update to the approach to curriculum development, teaching and learning in North Carolina's CTE classrooms.
- CTE has continued to maintain the use of a secured post assessment system aligned to the state developed curriculum and the instructional management system used in every secondary CTE classroom in North Carolina. These two systems have been integral to the state exceeding the Technical Attainment Measures. A continuous focus on staff development and a special

emphasis on staff development for new CTE teachers have also been significant components in the continuous improvement of North Carolina's performance on Technical Attainment.

- The community college system saw increased usage of their online professional development web site, NC-NET. In collaboration with the Basic Skills section, NC-NET is housing a set of curricula for ESL instructors. A Student Development Services component is being developed with funding from the N.C. General Assembly. NC-NET is becoming recognized as the one source for professional development for faculty and staff.

Challenges:

- Delivery and implementation of quality CTE credentialing models at the secondary level are major challenges. The expense involved makes it difficult to market the value of industry credentials to secondary students.
- As the status of Perkins funding ebbs and flows so does state level legislative fiscal support for Career-Technical programs. Maintaining state-level program momentum is difficult under such uncertain circumstances.
- One of the challenges vocational/technical education faces at the community college level is declining enrollment in technical programs, at a time when the state's businesses are experiencing a shortage of skilled workers in those areas. Various recruitment and retention strategies are being explored.

Status on Career Cluster Implementation:

This year North Carolina developed a career pathways booklet that focuses on biotechnology. North Carolina, with the third largest concentration of biotechnology companies in the United States, is a global competitor in this industry. North Carolina has made biotechnology a central part of its economic development strategy and is home to over 275 biotechnology companies who offer a variety of career opportunities. This booklet defines biotechnology and organizes it into six career maps fitting into different career pathways. The career maps are scientist, laboratory technician, engineer, process technician, maintenance and instrumentation technician, and corporate scientific professional.

<div align="center">

NORTH DAKOTA

</div>

Accomplishments:

- Started sharing data with the ND Department of Public Instruction (DPI), which will reduce the amount of information that individual districts will have to enter into our data collection system. Until this time the DPI did not use a student identifier, which is critical for the student information that CTE collects.
- Expanded the number and availability of CTE courses delivered through the state wide interactive video network. Currently, 21 different CTE courses are delivered this way to 52 districts, which represent 25% of all districts in the state. This has been accomplished through incentive funding that additionally supports the sending school.
- Our department entered into an agreement to integrate "ImagineND" a North Dakota career and industry awareness tool for junior high students' development with a new 8th grade North Dakota Studies textbook.

Challenges:

- Continued separate state funding for CTE in the face of an adequacy lawsuit that was brought to the state by a group of school districts.   An initial recommendation is to include secondary CTE funding with the per student foundation aid payment.
- Working with the P-16 Educational Task Force to align education standards and expectations between high school and postsecondary, and through that process, maintain CTE programming as a vital component in the educational process.
- Finding new CTE teachers. It is a struggle to not only attract new potential teachers, but to also retain teacher educators at our universities and colleges.

Status of Career Clusters Implementation:

We have started pilot career cluster based courses at the 9th and 10th grade levels. These courses are in Architecture and Construction and Arts and Communications. We do have criteria that would enable a school to also start 11th and 12th grade courses but currently the courses serve as feeder programs for the upper level occupational courses.

OHIO

Accomplishments:

- Career cluster (termed "career field" in Ohio) curricular and instructional resources:
    - Soliciting problem-based scenarios from business/industry. Scenarios will represent the competencies that have been identified in Ohio's technical content standards for each career field.
    - Developing inquiry-based instructional resources based on the career field scenarios.
    - Developing a career field professional development plan for teachers.
    - Planning grants are underway for the implementation of inquiry-based instruction of career field competencies through Ohio's Tech Prep consortia.
    - Developing a prototype for an Information Technology networking technical literacy assessment. The assessment will be scenario-based and will require technical knowledge and skills to be demonstrated using academic skills such as reading and mathematical and scientific reasoning.
- CTE plan (www.ode.state.oh.us/ctae/regulations/admin_rules.asp) to be submitted every five years addressing:
    - Scope of programming (At least twelve programs addressing eight different career fields are required);
    - Inclusion of work-based learning options, employment options and postsecondary linkages;
    - Establishment of career field advisory committees;
    - Grade 9-12 course sequencing; and,
    - Use of courses of study that meet both technical and academic Ohio content standards.
- Placement of career-technical education at the center of Ohio's high school reform efforts (www.ode.state.oh.us/ctae/Policy/2006/default.asp)
    - Executive Director responsible for both secondary education and workforce development;
    - Statewide career-technical conferences to focus on high school reform issues; and,
    - Use of Perkins funding for high school reform strategies such as 9th grade retention and 11th and 12th grade rigor in preparation for postsecondary success -- these outcomes will be targeted specifically for career-technical students.
- Organizational planning, operations and budgeting based on a comprehensive high school reform framework that integrates academic and technical initiatives.

Challenges:

- Human resources in order to do more monitoring and technical assistance.
- Assessments that will make curriculum, instruction and competency attainment a self-correcting system.
- Educator preparation (both pre-service and in-service) and state leadership staff development.

Status of Career Clusters (termed "career fields" in Ohio) Implementation:

- Ohio has adopted all 16 career fields as its career-technical curricular framework (www.ode.state.oh.us/ctae/CF/default.asp).
- Technical content standards are being developed/revised/updated for all 16 career fields and include embedded academic content standards. Information Technology and Construction Technologies are posted on Ohio's website. Manufacturing Technologies and Transportation Technologies are near completion.
- Curricular and instructional resources for Information Technology, Construction Technologies and Manufacturing Technologies are to be completed by June 30, 2006.

<div align="center">

OKLAHOMA

</div>

Accomplishments:

- Alliance Agreements - Two years ago we started a new process for our secondary programs at Technology Centers to count for college credit. For years we had cooperative agreements with our higher education partners that allowed for college credit after students completed their first year of college, but the agreements between the different technology centers and the different institutions of higher education all gave different hours of credit. Under the Alliance Agreements, students are able to start their college transcript in their junior year of high school and build up the hours as they take courses. This is allowing our students to earn 25, 35, 45, or more hours of college credit - **tuition free.**
- System Growth- Over the last three years, we have seen tremendous growth in the number of new program requests at our comprehensive high schools, tech centers and skill centers. Growth in Business & Industry classes continues to expand to meet an ever-increasing job market, even though unemployment is below 4% in most cases in Oklahoma. Annexation of schools, not in technology center districts at the present time, are continuing to take place, some successful and others not successful. We have just received a request from nine schools in the Panhandle of Oklahoma to form a new Technology Center. The area is currently not served by one, only by high school career tech classes. Partnerships with other state agencies continue to expand and have led to the development of our own TV show, entitled *"Oklahoma Horizon"*. It is about the good things going on in Oklahoma in agriculture and CareerTech, with a state and national viewership of over 38,000 weekly.
- New Programs & Services - With the addition of Pre-Engineering in more and more schools, along with Biotechnology, Cyber Security, Aerospace, and others, we see a renewed respect for what we do regarding the future of the state. We are looking forward to what Bio-Medical can do for us in the future with nanotechnology, health and research.

Challenges:

- Perception of CTE - we continue to see that CTE is not as valued as Common Education and Higher Education among some groups and with some policy makers. They feel CTE can't lead to a great career, conflicts with higher education, and that we pigeon hole students into low-level jobs.
- High School Graduation and College Entrance Requirements - With the push across the nation for increased testing and higher standards, we have begun an initiative in Oklahoma called, "Achieving Classroom Excellence." This initiative has the potential to become a greater challenge then the loss of Perkins funding, especially if our programs and tests are not accepted.
- Funding - Operational dollars to meet the ever-increasing needs of fuel, insurance, salaries, etc., along with the requests for new programs in high schools, tech centers and skill centers are our highest legislative priority at this time. Training dollars and building expansion for Business & Industry to help retrain the incumbent workers from companies such as GM and Delta Faucet, and for new companies in manufacturing, health, fire services and aerospace are also a necessity. New dollars will be needed to help with intervention and remediation for our CTE students with high stakes testing on the horizon.

Status of Career Clusters Implementation:

We are continuing to make headway across the state with our own CTE people, and we see a tremendous response for the cluster initiative from Business & Industry and the Governor's Workforce Development Board. I see areas, such as Health Education, Business Information Technology Education, and Marketing Education continuing to make giant strides. Agricultural Education, Family and Consumer Sciences and Trade & Industrial Education are also making moves by redesigning courses and realigning content areas for the future.

<div align="center">

OREGON

</div>

Accomplishments:

- Perkins Grant Management - Merging Perkins grant application and budget into the Oregon Consolidated Improvement Planning (CIP) process.
- Secondary Professional Technical Education (PTE) Program Approval - Completed updating of each approved secondary PTE program; implementation of an updated initial application process (based on 10 program quality indicators); establishment of a renewal cycle for each approved secondary PTE program; and, the launch of a secondary PTE program renewal process (based on performance data analysis and continuous improvement planning). http://www.ode.state.or.us/search/results/?id=225
- Postsecondary PTE Program Approval - Professional development workshops for Oregon's 17 community colleges on the updated approval process for postsecondary PTE certificate and degree programs (based on guiding principles and program standards). http://www.ode.state.or.us/opportunities/grants/perkins/postsecondary/instructions.aspx

Challenges:

- Responding to two pieces of state legislation that impacts work of the PTE unit at the Oregon Department of Education
  - Expanded Options - a legislatively-mandated accelerated college credit opportunity intended for at-risk students and dropouts with a funding provision for a portion of the K-12 student

revenue to transfer to the eligible postsecondary institution to cover on-site or distance education instructional costs. http://www.ode.state.or.us/search/results/?id=350

- o Workforce 2005 Taskforce—a legislatively-sponsored Taskforce to examine career and professional technical education grades 7 through 12 and higher education as a unified system that integrates education with workforce and economic development.

- Sustaining secondary and postsecondary PTE programs in the climate of competing educational program and funding priorities.
- Responding to the high-rate of turnover in PTE teaching and administrative staff created largely by retirements. Replacement staff is increasingly coming from a non-PTE background.

Status of Career Clusters Implementation:

- Cluster implementation is grounded with the "Oregon-ized" version of the career clusters called "Oregon Skill Sets". http://www.ode.state.or.us/search/results/?id=271
- Oregon's cluster implementation is a full partner in the statewide Pathways to Advancement agenda sponsored jointly by the Governor's Office, Department of Community Colleges & Workforce Development, Department of Education, Department of Employment and Department of Human Services. The statewide initiative recently staffed a full-time Pathways Director.
- Renewal of Oregon's Tech Prep initiative to align with career pathways and use the Oregon Skill Sets as the standards for curriculum, instruction, assessment and student certification.

PENNSYLVANIA

Accomplishments:

- Continue to remain focused on high school reform efforts that are leading to real improvements in the area of academic rigor, industry relevance and postsecondary transitions.
- Linkage of all education reform efforts, including Project 720, *High Schools That Work*, and Perkins, which includes Tech Prep. This is providing schools with concrete objectives and research based processes to follow. This is leading to improved student achievement.
- Linkage of CTE efforts with labor and industry efforts in workforce development. This has led to joint equipment grant awards to secondary and postsecondary schools, support of formalized business education partnerships, and joint support of training efforts focused on state identified, high priority occupations

Challenges:

They are the same as the top three accomplishments.

Status of Career Cluster Implementation:

Career cluster implementation is accomplished at the local level with the state providing resources.

RHODE ISLAND

Accomplishments:

- The Rhode Island Department of Education's (RIDE) statewide system for the delivery of the 16 clusters of CTE utilizes every public career center and comprehensive high school. In order to

ensure program quality, RIDE designed program approval criteria and created a web-enabled process for state program approval using specific criteria (See Appendix B).

- Previously, RIDE was able to secure $15M in bond funding for the repair of seven state-owned CTE centers. Existing condition reports have been completed and bids to complete the life safety repairs have been let.
- RI rolled out its new high school diploma system last year. Schools are restructuring to demonstrate that they meet the rigorous criteria of the diploma system. To assist schools, RIDE has hosted numerous training and support sessions leading to the Commissioner's review and decision in May/June 2006.
  Also in support of this initiative, three networks focused on exhibitions, portfolios and common tasks were created to develop a web-based suite of materials (toolkits) that will provide clear direction to high schools as they develop local assessments. Subsequently, ten schools were funded as demonstration sites for work on their diploma assessments. Study tours were held at each of the schools for visitor-participants from a wide range of the state's remaining high schools.

Challenges:

- Funds initially appropriated to implement the process and utilize the web-enabled system are tied up in state revenue estimating shortfalls and have been rescinded. Special sessions with the House Finance Committee are being held in efforts to have these funds restored.
- Beyond the needed life safety repairs, the existing condition reports uncovered a host of repairs categorized as accessibility, asset protection, building systems and security repairs that must to be addressed to avoid failure. In today's dollars, these repairs will cost an additional estimate $20M. RIDE will need to develop a strategy to secure these funds.

SOUTH CAROLINA

Accomplishments:

- South Carolina was successful in passing the Education and Economic Development Act that is major reform legislation in PK–16. The Office of Career and Technology Education led the efforts in writing and passing the legislation.
- South Carolina expanded *High Schools That Work* sites to 80 and *Making Middle Grades Work* to 41 sites, for a total of 121 sites.
- Career and technical courses (that are appropriate) will be eligible for honors weighting in 2006–07.

Challenges:

- Secure future funding for the implementation of the Education and Economic Development Act.
- Increase staff to meet the demands of the new legislation.
- Increase student and parental awareness of new CTE opportunities in South Carolina.

Status of Career Clusters Implementation:

- The Education and Economic Development Act creates and mandates a PK–Adult seamless career cluster system for all students while eliminating all labels placed on students.

- South Carolina has established a seamless education and career cluster pathway system that links PK–16.
    - Assess career interest in grade 7 with parental involvement.
    - Develop a flexible Individual Graduation Plan (IGP) in grade 8 with parental/guardian involvement and sign off.
    - Review IGP annually with student and parent.
    - Select a career major by the end of grade 10 with parental/guardian involvement.
- Established a clearly defined educational pathway for grades 9–16 that provides agreements for dual enrollment and articulation for all courses and all career clusters.
- Developed a standard electronic IGP that will be housed in a state-level database where all student IGPs are accessible with a unique student identifier number.
- Coordinating with state-level committee on PK–16 to align secondary and postsecondary curriculum.

SOUTH DAKOTA

Accomplishments:

- Articulation agreements between Technical Institutes and Universities
- Full implementation of *High Schools That Work* in 27 schools.
- Development and delivery of Career and Technical Education courses via distance delivery.

Challenges:

- Acquiring and maintaining state funding.
- Assisting secondary and postsecondary programs to keep current and be on the cutting edge.
- Maintaining and enhancing secondary programs in light of tight budgets or budget shortfalls at the local level

Status of Career Clusters Implementation:

South Dakota is launching the career cluster initiative and has adopted the 16 Clusters as the framework. We will initially, start working with eight to develop a scope and sequence of courses in meeting the standards of a Cluster Program. Implementation will be a component of the *High Schools That Work* and Tech Prep initiative.
SD is in the process of developing a statewide framework for internships as a component of a cluster program.

TENNESSEE

Accomplishments:

- On-line data reporting by LEAs to CTE.
- Tennessee's first on-line CTE report card for school systems.
- 42 state wide articulation agreements with Tennessee Technology Centers and Community Colleges

Challenges:

- Academic Integration
- Postsecondary data collection
- Funding

Status of Career Clusters Implementation:

Tennessee is still considering adopting the 16 Career Clusters. We are able to report our CAR data in the 16 clusters. However, we are waiting for a department wide decision on adopting the clusters for all students. Postsecondary has adopted the 16 Clusters.

TEXAS

Accomplishments:

- Last spring, Texas had 52,253 graduating Tech Prep high school seniors and if they had all taken advantage of their college credit earned in their Tech Prep programs, it would have been equivalent to over $32,187,693 in saved college tuition and fees and over $36,484,219 in saved state funding for those college courses. This is an 8 to 1 return on investment in terms of just the costs associated with education and does not include the economic impact of students completing degrees in high skill occupations entering the workforce early.
- Texas is continuing to expand the Texas TWO STEP project, between community colleges and nine state universities, formal agreements where students who complete a Tech Prep Associates of Applied Science Degree can smoothly transfer and complete a baccalaureate degree without having to repeat any classes. College Tech Prep now is a viable alternative to traditional "college-prep" high school programs. Go to www.techpreptexas.org .
- Texas is implementing a new statewide Performance Based Monitoring Accountability System (PBMAS) this year. It is a data-driven, results-based system designed to improve student performance and program effectiveness. CTE has seven performance indicators (six academic and one dropout). Districts assigned one of four intervention levels are currently engaged in data analysis, program review, and continuous improvement planning. With the new PBMAS, there is a renewed focus on data quality. The integrity of the PEIMS data system depends on districts coding students and assessment documents appropriately. Ongoing professional development is critical to the success of data quality. Go to www.tea.state.tx.us/pbm and www.tea.state.tx.us/pbm/ctemon for more information on the PBMAS and CTE PMB.

Challenges:

- Adequate state funding is essential for universities, colleges, and school districts to offer quality, equitable educational opportunities for students. All educational programs are seeking to maintain or increase funding levels at a time when budget reductions and cuts are inevitable.
- A shortage of qualified teachers in all CTE areas continues to be a challenge. Texas is in the process of completing new teacher certification standards, frameworks, and exit exams for each secondary CTE program area. Go to www.sbec.state.tx.us/SBECOnline/certinfo/cte.asp.
- With the focus on increased academic testing and increased graduation requirements, districts are having difficulty providing students with opportunities for career exploration, career investigation, and attainment of advanced technical knowledge and skills essential for success in postsecondary education and the workforce.

Status of Career Clusters Implementation:

Texas is developing a plan to transition from traditional CTE programs to career clusters. We are funding a grant titled: *Career Pathways – A Framework for Career Planning and Preparation in the 21ˢᵗ Century*. It has been decided that the pathways project will use the 16 Career Clusters and cluster resources as the framework for identifying and developing the career pathways. We contracted with *Laine Commuications* to provide a comprehensive communications plan for implementation of career clusters - called "Achieve Texas". We are in the process of developing detailed Career Pathways within the 16 clusters to assist students, parents, counselors and schools in preparing all students for a career and postsecondary education. (See Handout)

UTAH

Accomplishments:

- Marketing Initiative Implemented (Brochures, Annual Report, Radio and TV Commercials, Web Site)
- Public Education and Higher Education Partnership of Pathway Initiative
- Successful CTE Staff Development, Administration Meetings, and Regional Meetings

Challenges:

- Proposed Change to High School Graduation Requirements
- Regents Recognition Award Program Requiring Specific Additional Graduation Requirements
- Providing CTE Opportunities for Rural and Remote Areas of the State

Status of Career Clusters Implementation:

Utah's initiative is "*High School to College and Career PATHWAYS,*" which focuses on the Career and Technical Education Areas of Study of Agriculture, Business, Family and Consumer Science, Health Sciences, Information Technology, Marketing, Technology and Engineering, and Trade and Technical Education. Both CTE and academic courses are mapped in articulated pathways that lead to postsecondary education and training. The dual enrollment or concurrent enrollment courses are designated on the pathway. Job outlook information is also included in the pathways. Utah has developed a crosswalk to the national Career Clusters, but is focusing on our own "*High School to College and Career PATHWAYS*." Utah has developed approximately 70 articulated pathways. The Pathways initiative builds on a strong foundation in Utah of 1) nationally recognized comprehensive counseling and guidance program, 2) 20-year history of regional CTE planning with strong partnerships between high education and public education, 3) College Tech Prep agreements and partnerships, 4) strong concurrent/dual enrollment program, 5) skill certificate program for high school students, and 6) strong CTE staff development program.

VERMONT

Accomplishments:

- Designed data-driven local plan process.
- Developed template for model CTE program design to address quality and accountability (e.g. student assessments; minimum program performance expectations; and awarding of industry credentials and PS credits)
- Strengthened a stronger working partnership between new administrators at DOE and CTE centers

Challenges:

- Revision of state statutes and rules to better align with CTE vision.
- Integration of CTE programs and high school programming.
- Limited capacity at DOE; need to streamline administrative functions so there is more time for qualitative initiatives.

Status of Career Clusters Implementation:

We manage programs and teacher licensing around the career clusters. However, we still have a way to go to get programs to adjust curriculum to reflect "all aspects of industry" in a cluster area. There is a need for professional development so CTE teachers really understand the full implementation of career clusters and for centers to manage sequence of learning within a cluster area. Current status of implementation is more administrative than it is deep programming adjustments. We plan to use the revision of program competency lists to begin to influence curriculum toward real implementation of career clusters.

VIRGINIA

Accomplishments:

- CTE was added to the School Performance Report Card. The number of students who receive a license/certification/occupational assessment must be identified.
  - State funds were provided for student reimbursement for license, certification, or occupational assessment. The maximum amount of state funds available is $550,000.
  - The total number of students receiving State Board approved state licensure, industry certification, or passing NOCTI assessments in the 2004-05 school year was 5,008 with an additional 1,339 locally approved industry certifications (funded by the local school division and industry specific to that local school division).
- New positions for two Career Cluster Coordinators who will assist in the implementation of the cluster structure for CTE, implementation/administration of Federal Perkins programs, as well as, the support activities of local planning, staff development, curriculum development, *High Schools That Work* and with initiatives or requests from the Governor, General Assembly and State Board of Education.
- Continued development of a strong working relationship with the Virginia Community College System, which includes the following:
  - Statewide articulation agreements;
  - Development of career pathways;
  - Career coaches for secondary schools; and,

- o Path to Industry Certification for high school graduates who have not obtained industry certification.
- Continued curriculum development and staff development for teachers.

Challenges:

- The need for colleges/universities to reinstate programs or provide new programs that would allow for teaching endorsements in CTE, specifically the critical shortage program areas.
- Working with a new governor and administration. The new theme is "Education Excellence". We will need to determine what this means for CTE and how we will meet the requirements.
  - o Securing continued state funding for the Curriculum Resource Center, equipment, and industry certification in the state budget.
- The need for a continued marketing program that shows the current image of CTE and is inclusive of all program areas to show the depth of our programs. This marketing program should be directed to audiences in the school, the home, and the community.

Status of Career Clusters Implementation:

Virginia has been identifying career roles and programs within the 16 Career Clusters for several years. We are currently developing a *Career Planning Guide* that is student-centered toward careers and pathways in the 16 Clusters and identifies the courses/programs that a student needs to prepare within their career field of interest.
- Moving towards the organization of the CTE program area specialists around career clusters to complement the current classification of each curriculum around a specific cluster.
- Promoting a statewide available career assessment tool that presents results around the career clusters.
Development of career pathways from secondary to postsecondary that feature the Tech Prep classes organized around the career clusters.

WASHINGTON

Accomplishments:

- This year CTE was a legislative winner for secondary, postsecondary, and workforce development. The secondary system received funding for:
  - o CTE equipment replacement;
  - o Statewide dissemination of Navigation 101 curriculum (a student planning curriculum) and expansion/implementation of the program into 100 districts;
  - o Enhanced full-time equivalent (FTE) funding for skills center enrollments;
  - o Incentive grants to districts for development of pre-apprenticeship programs; and,
  - o Creation of a statewide database system of longitudinal student information.
  The postsecondary system received funding for:
  - o An Opportunity Grants Program that provides increased access to postsecondary education for low income students in job-specific programs;
  - o Increased FTE slots for enrollments in high demand programs where employers are experiencing difficulty finding qualified graduates to fill job openings;
  - o Customized workforce training; and,
  - o Applied baccalaureate degrees, specifically designed for individuals who hold AAS degrees.

- The Workforce Board received funding for two studies. The first study will identify ways that the workforce development system can be improved to better serve the state's citizens and meet employers' needs, and at the same time, evaluate the delivery system with the goal of achieving easier access to postsecondary education for students. The second study is for analysis of the state's secondary skills centers. Recommendations will be made addressing increased access, the feasibility of satellite sites, summer and evening program offerings, and an evaluation of the role the centers have in dropout prevention and retrieval.
- Washington 2005 Legislature created Washington Learns, a comprehensive education steering committee, chaired by Governor Gregoire, to examine the state's education systems – from early learning to K-12 to higher education and workforce training - and to create a "strong education system that will provide an educated citizenry and a thriving economy" in the state. The Steering Committee will make decisions based on the recommendations from three advisory committees: the Higher Education Committee, the K-12 Committee, and the Early Learning Committee. Each committee has been assigned to research current efforts, and submit a recommendation for change to the Governor in November 2006.

Challenges:

- Increased emphasis on NCLB and successful completion of the WASL (Washington Assessment of Student Learning) have reduced some of our secondary schools' CTE offerings. However, the 2006 Legislature passed a bill allowing districts to use evaluation and successful accomplishment of applied skills gained through CTE as an alternative assessment.
- Successful tracking of students transitioning between secondary and postsecondary and beyond for accountability.
- CTE teacher recruitment and replacement due to the increased number of retirees within the current workforce.

Status of Career Cluster Implementation:

- The Workforce Board's *Where are you going? Career Guide* identifies and categorizes occupations by the 16 Clusters. This year's edition was recognized as a Career Clusters State Resource.
- The 16 Clusters are organized into four pathways at the secondary system, and efforts are being undertaken to crosswalk CIP codes between the secondary and postsecondary system. The results will serve as a preliminary step in secondary pathway and cluster alignment with two-year professional technical program.

<center>**WEST VIRGINIA**</center>

Accomplishments:

- The development of a comprehensive data collection and accountability system for career/technical and adult education, including online, end-of-course testing of all students enrolled in core CTE courses; ACT WORKKEYS® assessments in Reading for Information and Applied Mathematics for all CTE completers; industry-recognized credentialing opportunities for all completers; and, placement in training-related employment or postsecondary education. Data profiles are generated for all technical centers and comprehensive high school programs with a focus on guiding instruction and programmatic improvement.

- The development of *Earn-A-Degree – Graduate Early* (EDGE) credit for approximately 80 percent of all core CTE courses, allowing students to earn tuition free, community and technical college credit for secondary coursework.
- Redesigning the Career/Technical Education Accountability and Evaluation System to align with the data system, including the development of a School Recognition Program for CTE.
- The establishment of a State Workforce Planning Council to plan and oversee the public sector agenda and programs associated with workforce and economic development. The representatives on this Council include the Governor's Office, Development Office, Workforce Investment Office, Community/Technical Colleges, and Public School Career/Technical Education.

Challenges:

- Recent changes in the core graduation requirements (i.e., Civics, 4th Mathematics, etc.) are forcing students to make difficult choices in terms of schedules, often resulting in their inability to complete CTE concentrations with specific time-dependent credentialing requirements.
- Many students are ill-prepared academically to succeed in more rigorous, 21st Century CTE programs, resulting in schools and programs struggling to meet the higher academic and technical proficiency standards imposed by the State.
- The recruitment and retention of CTE teachers in the health, information technologies, drafting and technology education areas is a problem in West Virginia and is projected to become more serious as large numbers of CTE teachers retire.

Status on Career Clusters Implementation:

West Virginia implemented a system of career clusters and majors to guide students through high school in 1998. All high schools have developed their programs of study around the cluster format which includes six career clusters and approximately 40 majors. We have modified the USDOE cluster materials to fit our format.

WISCONSIN

Accomplishments:

- **State Superintendent's High School Task Force:** State Superintendent Burmaster established this state level task force to study and develop recommendations centered on identifying strategies to raise achievement, embrace strengths and identify where change is needed; examine new models of student learning and engagement; rethink roles and relationships that frame high schools; and advance best practice.
- **Statewide Career Cluster Design Team:** This statewide team of secondary and postsecondary CTE professionals, school guidance, and higher education has been meeting to design and implement Wisconsin's model for career clusters. The Wisconsin model will be implemented this fall and is based on the NASDCTEc's Cluster Initiative. The model embraces secondary and postsecondary education and CTE, Tech Prep, School-to-Work (STW), and Education for Employment efforts. The WI model also aligns cluster initiatives across state agencies.
- **Career Assessment for All School Districts:** The WI DPI is continuing its financial and professional development support of the Wisconsin Career Assessment (WCA) to all school districts. The WCA is a career guidance assessment for 10th graders.
- **Wisconsin Girls Collaborative Project:** Wisconsin is a proud partner of the Puget Sound Research Center in implementing a STEM related, NSF supported project called the National

Girls Collaborative Project. WI DPI CTE team has implemented the *WI Girls Collaborative Project* that focuses on networking local entities (i.e., business, industry, education, public non-profits, etc.) that provide STEM related learning experiences to girls and young women. The project also provides grant money to these organizations to partner with one another and expand STEM experiences.

- **Advanced Manufacturing Solutions:** The Wisconsin Technical College System (WTCS) implemented a number of initiatives in its Advanced Manufacturing Solutions strategy. The WTCS used *LearnPoints TrainingMatrix* software to establish an on-line portal steering Wisconsin manufacturers to training services offered by four regional networks of technical colleges. Manufacturing program deans and faculty worked on building the manufacturing core skills identified by previous WTCS research into the program curricula. The colleges promoted the *I am Wisconsin manufacturing* marketing campaign to increase prospective student interest in manufacturing careers. .

- **Completion of WTCS Health Care Curriculum:** The WTCS completed work on establishing system wide curricula, common to all sixteen technical colleges, for all of its health care programs.

Challenges:

- **Future alignment of data systems across education systems:** Wisconsin probably is in the middle of the pack in terms of connectivity of data among its educational systems. In order to meet future accountability requirements and evaluate education reform efforts, better alignment of data systems will be necessary. The WI DPI's implementation of a new student data system provides both challenges and opportunities. The influence of employment and training perspectives on national accountability systems may complicate the development of accountability systems that work best for educational purposes.

- **Professional development on accountability issues and requirements:** Much professional development is needed in K-12 schools on impacts and requirements of new accountability systems.

- **Under prepared learners in the WTCS:** With an increased emphasis on general education in associate degree programs and rising technological content in many program areas, the problem of under prepared learners in technical college programs has taken on new significance and visibility.

- **Funding:** As in almost all states, pressures to slow or halt the growth of local property taxes and a similar hold-the-line approach to state budgeting creates difficulty in sustaining CTE efforts. Budget challenges combined with the emphasis on testing for academic skills, which are driven by NCLB, makes it difficult for schools to give CTE the proper level of attention and resources. The technical colleges are facing an unprecedented level of scrutiny concerning their draw on local property tax dollars.

Status of Career Clusters Implementation

See Accomplishments.

<center>**WYOMING**</center>

Accomplishments:

- Met 13 of the 14 Perkins accountability indicators.

- Aligned the 16 Career Clusters and an 8th grade unit of study to the just legislated Hathaway Scholarship Plan, the new statewide scholarship for all high school graduates.
- Developed local Perkins accountability models for secondary LEAs and postsecondary institutions

Challenges:

- State funding for CTE flows to school districts via a block grant and not categorically to CTE programs.   The new recalibrated Wyoming school funding model needs to be reviewed and watched to see how CTE fairs.
- The Hathaway Scholarship Plan will require further development of the career planning 8th grade unit of study.
- The Wyoming Department of Education CTE Action Plan has an ambitious agenda to include examining CTE teacher certifications, promoting entrepreneurship education, and developing model programs in the 16 Clusters.

Status of Career Clusters Implementation:

- Awareness of the 16 Career Clusters and Wyoming's opportunities within each will be fully accomplished in grades 8-12 statewide due to the alignment with the Hathaway Scholarship Plan in 2006.
- The CTE staff has developed Career Planning Guides and 16 Career Planners in collaboration with other state agencies and postsecondary partners to be used in grades 8-12.
- CTE program course sequencing is predicated on the 16 clusters.   Program improvement across the state will be supported over the next two years by technical assistance visits to every high school by the end of the 2007-2008 school year.