



## **Advancing Career and Technical Education (CTE) in State and Local Career Pathways Systems**

The following occupations are examples of the kinds of jobs for which students may be prepared in Career Pathways focused on Highway Design and Construction (including highways, bridges, tunnels). This list is not all-inclusive.

- Construction Trades and Extraction Workers (including First-line Supervisors, Foremen/women)
- Civil Engineers
- Construction and Building Inspectors
- Transportation Engineers
- Architectural and Civil Drafters and Planners
- Geologists/Archeologists/Geotechnical Specialists
- Environmental Specialists (including green building, air quality testing, noise abatement, hazardous materials control)
- Electrical Engineers
- Cost Estimators
- Managers and Executives (public and private sector)
- Clerical Workers
- Civil Engineering Technicians
- Architectural and Engineering Managers
- Heavy and Tractor-Trailer Truck Drivers
- Paving, Surfacing and Tamping Equipment Operators
- Traffic Technicians
- Painters
- Laborers (semi-skilled)
- Helpers
- Ironworkers/Welders/Structural Steelworkers
- Cement Masons
- Stone Masons/Bricklayers
- Carpenters/Piledrivers/Bridge Carpenters
- Electricians
- Pipefitters/Pipelayers/Plumbers
- Operating Engineers and other Construction Equipment Operators
- Landscape Architects
- Land Surveyors, Appraisers



- Crossing Guards/Flagmen/Safety Engineers
- Earth Drillers/Land Movers/Excavation
- Mobile Heavy Equipment Mechanics
- Highway Maintenance Workers



## **Advancing Career and Technical Education (CTE) in State and Local Career Pathways Systems**

### **Model for Technical Assistance: Executive Summary**

Although the U.S. economy continues to improve, recovery in America's job market is still relatively slow. In August 2013, while unemployment fell to 7.3 percent, 11.3 million Americans were still unemployed and looking for work. Yet, employers continue to report difficulties finding skilled workers. This skills mismatch continues to plague our economy. While the recent recession affected individuals of all educational levels, there is no question that those who were most adversely impacted were individuals with low skills and educational levels.

Education is directly proportionate to economic prosperity and this trend is expected to increase. A 2010 study from the Center on Education and the Workplace at Georgetown University forecasted that 63 percent of all jobs by 2018 will require at least some postsecondary education.<sup>i</sup> A recent study conducted by College Measures found that students who earn Associate's degrees and occupational certificates earn more on average than those with four-year college degrees in their first year out of school. That same study found that students with technical associates degrees in Texas earned over \$11,000 more on average than their first year counterparts with four-year degrees.<sup>ii</sup>

At a time when postsecondary education, particularly credentials in high demand technical fields are more important than ever in determining labor market success, less than half of the students who enter a community college graduate or transfer to a four-year college within six years according to *Reclaiming the American Dream: Community Colleges and the Nation's Future*, a report written by the American Association of Community Colleges.<sup>iii</sup> Unfortunately, these numbers are even lower for low income and low-skilled individuals.



## **Career Pathways**

Career Pathways Systems can help to increase the retention and completion rates of these and other students who are pursuing high value technical credentials and degrees. Career Pathways are a powerful organizational framework for aligning public investments in education, workforce development, social services, and economic development.

Career Pathways Systems help individuals of all skill levels pursue, progress through and complete the education and training they need to attain industry-recognized credentials and family-sustaining employment. Career Pathways align major education, training, workforce development and support programs to meet the skill needs of students, jobseekers, and workers; and the skill requirements of employers in high-demand industries and occupations. By meeting the skill requirements of regional employers, a comprehensive Career Pathways System can help businesses prosper while enabling individuals to attain the skills and credentials that are necessary for careers in high demand industry sectors vital to regional economies.

Many pathways systems integrate or align academic and technical education coursework in ways that allow low-skilled adults to begin earning postsecondary occupational credits while still working on basic education and/or English language skills. Coursework is often organized in modules that align with stackable credentials that have value in the labor market. By organizing coursework in these ways, students have a better chance of persisting and completing their training -- on an accelerated basis -- and attaining credentials and careers.

In support of these efforts, in April 2012, the U.S. Departments of Education (ED), Labor (DOL), and Health and Human Services (HHS) issued a “joint commitment to promote the use of Career Pathways approaches as a promising strategy to help adults acquire marketable skills and industry recognized credentials through better alignment of education, training and



employment, and human and social services among public agencies and with employers.” At that time, they agreed upon a framework, including a definition and six key elements that are important to the development of state and local Career Pathways Systems.

## **Programs of Study**

As Career Pathways Systems for adults have evolved and matured, a parallel effort has taken shape in CTE to prepare young people for college and careers. Also a form of “career pathways” -- beginning at the secondary school level -- Programs of Study (POS) emphasize the alignment of secondary and postsecondary CTE programs so that young people can move efficiently to and through postsecondary education and training systems. Programs of Study also urge the coordinated, non-duplicative progression of courses leading to industry-recognized credentials or degrees at the postsecondary level, and encourage students to earn college credits while still in high school. The design elements and goals of Programs of Study are similar to those of Career Pathways—as are the system-building efforts of state and local stakeholders. However, because these two reform efforts were shaped by different legislative directives, delivery systems and funding streams, and engaged different public systems and populations, CTE Programs of Study and Career Pathways efforts frequently function in relative isolation from each other. This misalignment is inefficient and ineffective for delivering services to students, jobseekers, workers and employers.

## **Advancing Career and Technical Education (CTE) in State and Local Career Pathways Systems**

This project is designed to help states and local communities integrate Career and Technical Education Programs of Study into their broader Career Pathways System development efforts. Outcomes from this initiative are expected to yield:

The work reported herein was supported under the Advancing Career and Technical Education in State and Local Career Pathways Systems project, Contract Number (ED-VAE-12-C-0068) as administered by the Office of Vocational and Adult Education, U.S. Department of Education. However, the contents do not necessarily represent the positions or policies of the Office of Vocational and Adult Education or the U.S. Department of Education and you should not assume endorsement by the Federal Government.



- Improved opportunities for students, beginning in secondary school for school-aged youth and in adult education programs for low-skilled adults, to enter into pathways that will take them to and through postsecondary education;
- Greater numbers of individuals who attain industry-recognized credentials and degrees with value to employers in the state and regional labor markets; and
- Increased numbers of individuals who attain employment in high demand industries and occupations.

To help states and local communities bridge these efforts, **Phase I** of this project was announced last year. Five states (Colorado, Kansas, Massachusetts, Minnesota, and Oregon) were selected in January 2013 and are now participating in the project that is built around an integrated model for the development of comprehensive Career Pathways Systems (that include Programs of Study) — blending the two national frameworks established for Career Pathways and Programs of Study. Technical assistance for this project integrates the 10 components and subcomponents of Programs of Study into the following Six Key Elements identified as critical to the development of comprehensive Career Pathways Systems:

1. Building Cross-System Partnerships
2. Engaging Employers, Identifying Key Industries and Aligning with Industry Needs
3. Redesigning Programs (including the systems changes that need to be undertaken to accomplish this work)
4. Pursuing Funding, Sustainability and Scale in Support of Systems Change
5. Pursuing Needed Policies and Policy Changes Necessary for Systems Change
6. Aligning Cross-System Data and Accountability



A more detailed description of the TA model as well as the two national frameworks for Career Pathways and Programs of Study is included in the attached *Advancing CTE in Career Pathways TA Model* document. Definitions of Career Pathways and CTE Programs of Study are also included at the end of this paper.

To help states build skilled workforces in the field of transportation, especially to address concerns about skilled worker shortages in the development and revitalization of the nation's highway system, the U.S. Department of Transportation has joined with the U.S. Department of Education, Office of Vocational and Adult Education (OVAE) to launch **Phase II** of the project. As described in the project Overview, Phase II will add three new states to this project, with the purpose of developing comprehensive Career Pathways Systems that extend from secondary school through postsecondary education and training programs (including apprenticeships) in the field of transportation, focusing on highway construction and related occupations.

Once the three new states are selected for participation, all eight states will participate as a cohort in this TA project over the next two years – working toward the development of comprehensive Career Pathways Systems that provide expanded opportunities for students beginning in secondary school, and for adults in Adult Education -- to successfully attain high value industry-recognized postsecondary credentials and high demand, family sustaining careers.



**Definition of Career Pathways (Agreed Upon by the U.S. Departments of Education, Labor, and Health and Human Services)**

A series of connected education and training strategies and support services that enable individuals to secure industry relevant certification and obtain employment within an occupational area and to advance to higher levels of future education and employment in that area.

**Career Pathways should include:**

- Alignment of secondary and postsecondary education with workforce development systems and human services;
- Rigorous, sequential, connected, and efficient curricula, that “bridges” courses to connect basic education and skills training and integrate education and training;
- Multiple entry and exit points;
- Comprehensive support services, including career counseling, child care and transportation;
- Financial supports or flexibility to accommodate the demands of the labor market in order to allow individuals to meet their ongoing financial needs and obligations;
- Specific focus on local workforce needs, aligned with the skill needs of targeted industry sectors important to local, regional or state economies, and reflective of the active engagement of employers;
- Curriculum and instructional strategies appropriate for adults, that make work a central context for learning and work readiness skills;
- Credit for prior learning and other strategies that accelerate the educational and career advancement of the participant;
- Organized services to meet the particular needs of adults, including accommodating work schedules with flexible and non-semester-based scheduling, alternative class times and locations, and the innovative use of technology;
- Services that have among their goals a focus on secondary and postsecondary industry recognized credentials, sector specific employment, and advancement over time in education and employment within a sector; and
- Is founded upon and managed through a collaborative partnership among workforce, education, human service agencies, business, and other community stakeholders.

**Definition of CTE Programs of Study (Developed with Support from OVAE)**

**CTE programs of study at a minimum, must:**

- Incorporate and align secondary and postsecondary education elements;
- Include academic and CTE content in a coordinated, non-duplicative progression of courses;
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits; and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

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<sup>i</sup> <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/FullReport.pdf>

<sup>ii</sup> [http://www.air.org/news/index.cfm?fa=viewContent&content\\_id=2731](http://www.air.org/news/index.cfm?fa=viewContent&content_id=2731)

<sup>iii</sup> <http://www.aacc.nche.edu/aboutcc/21stcenturyreport/21stCenturyReport.pdf>

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN STATE AND LOCAL CAREER PATHWAYS SYSTEMS

**MARCH 2013**

**MODEL FOR THE PROVISION OF  
TECHNICAL ASSISTANCE**



**JOBS FOR THE FUTURE**

# **ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL**

## **I. INTRODUCTION AND PURPOSE OF THE INITIATIVE**

### **THE OPPORTUNITY**

Across the nation, education and workforce development systems are responding to increasing employer demand for academic, employability and technical skills among employees. As postsecondary credentials have become the key to a middle class standard of living, education and training systems are all working to help both youth and lower-skilled adults access and succeed in postsecondary credential programs with labor market value. This includes the country's K-12 and postsecondary education systems, particularly Career and Technical Education (CTE) programs within those systems, and our adult education and workforce development systems. Given their common goals, the traditional autonomy of these education and training institutions no longer makes sense. For this reason, innovators are reaching out across system boundaries to develop more robust pathways to industry-recognized postsecondary credentials and family-sustaining employment.

### **ADULT CAREER PATHWAYS**

The past decade has seen a dramatic increase at the state, regional and institutional levels in the development of Career Pathways, which are designed to bring greater efficiency and transparency to the routes from adult education programs, non-credit training, or other starting points to credentials recognized by industry and postsecondary educational institutions. Built around integrated academic and technical education pathways, Career Pathways enable individuals to progress through a modular system of postsecondary credentials that build upon each other, leading to further credentials and improved employment prospects.

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# **ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL**

Increasingly, Career Pathways Systems are being forged at the state level. There, policy reforms have helped to: identify high-demand occupations; carry out collaborative approaches to the development and expansion of pathways for students at different levels of preparedness; and provide incentives (e.g., performance based funding, enhanced FTE, state-based funding) to promote and reward more effective, transparent pathways to postsecondary credentials and employment. Career Pathways collaborations have also emerged in occupational or industry clusters, where providers and employers unite to align systems in ways that lead to industry-recognized credentials and quality employment.

The federal government, led by the Departments of Education, Labor, and Health and Human Services, has been an active proponent of Career Pathways Systems, through conferences and webinars, research, toolkits, virtual communities of practice, and competitive grants. In April 2012, the Department of Labor's Employment and Training Administration (ETA), the Department of Education's Office of Vocational and Adult Education (OVAE), and the Department of Health and Human Services' Administration on Children and Families (ACF) issued a joint letter of support for Career Pathways that provides structure for this work (<http://www2.ed.gov/about/offices/list/ovae/ten-attachment.pdf>) (See Appendix One).

## **CTE PROGRAMS OF STUDY**

As Career Pathways Systems for adults have been evolving and maturing, a parallel effort has taken shape in CTE systems and institutions that prepare young people for college and careers. The 2006 reauthorization of the Carl D. Perkins Career and Technical Education Act (Perkins IV) emphasized the importance of alignment between secondary and postsecondary CTE programs so that young people can move efficiently and quickly to and through postsecondary education and training systems. Perkins IV called on states to support the creation of Programs of Study (POS), an educational option that incorporates and aligns secondary and postsecondary elements. In a coordinated, non-duplicative progression of courses leading to industry-recognized credentials or degrees at the postsecondary level, it includes, where appropriate, the opportunity for high school students to earn college credits.

# **ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL**

Since 2006, there has been progress by states, local communities and partners working with the Department of Education's Office of Vocational and Adult Education (OVAE) to define and identify 10 essential components of CTE Programs of Study. The definition and essential components of Programs of Study were developed in order to help schools and their partners create more structured pathways, with multiple entry and exit points that lead to postsecondary education and careers in high demand occupations

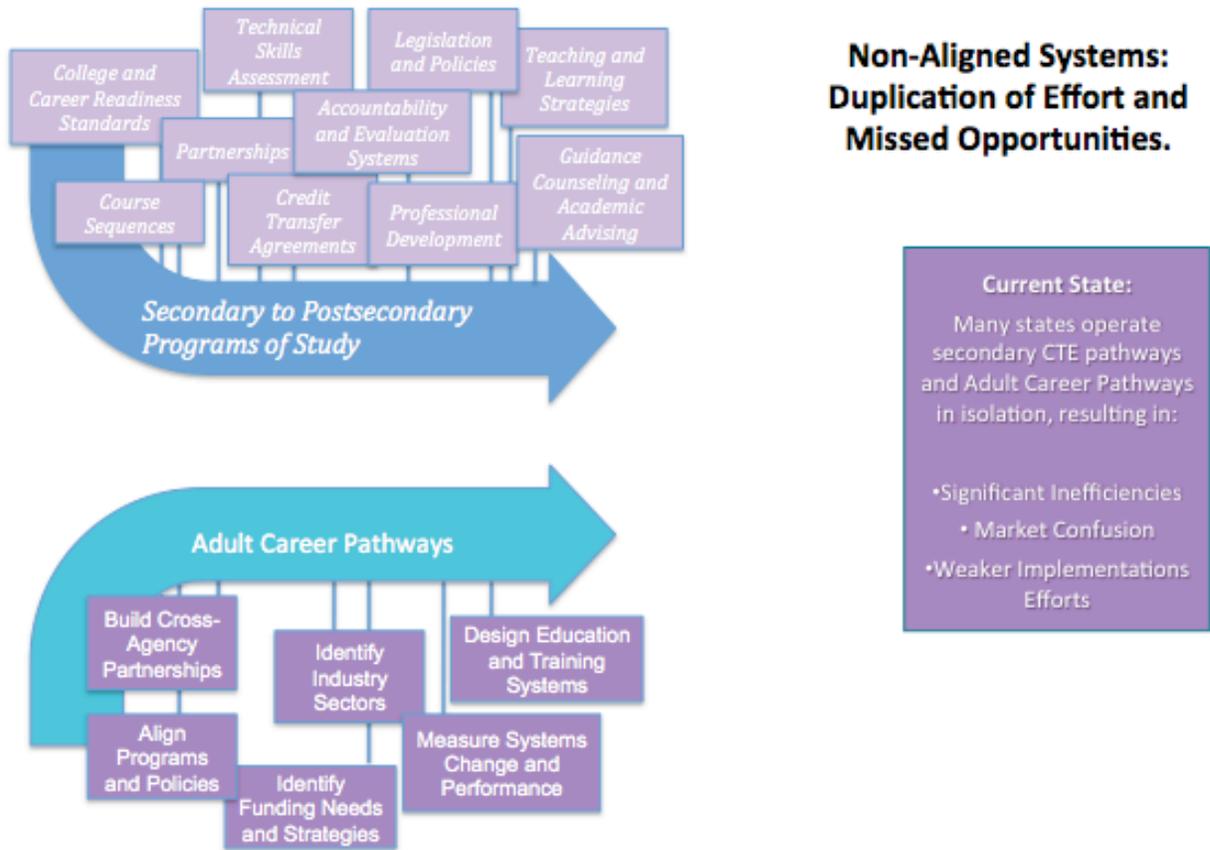
[\(<http://cte.ed.gov/nationalinitiatives/rposdesignframework.cfm>\)](http://cte.ed.gov/nationalinitiatives/rposdesignframework.cfm).

In effect, the development of CTE Programs of Study has followed a parallel evolution to Career Pathways serving adults. The design elements and goals of Programs of Study are similar to those of Career Pathways—as are the system-building efforts of state and local stakeholders. However, because these two reform efforts are shaped by different legislative directives, delivery systems and funding streams, and engage different public systems and populations, CTE Programs of Study and Career Pathways efforts frequently function in relative isolation from each other. Rare is the state where the two efforts learn with and from each other, reinforce each other, and move forward in a coordinated and aligned way.

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS

## INTEGRATED MODEL

### A Missed Opportunity



**Graphic 1**

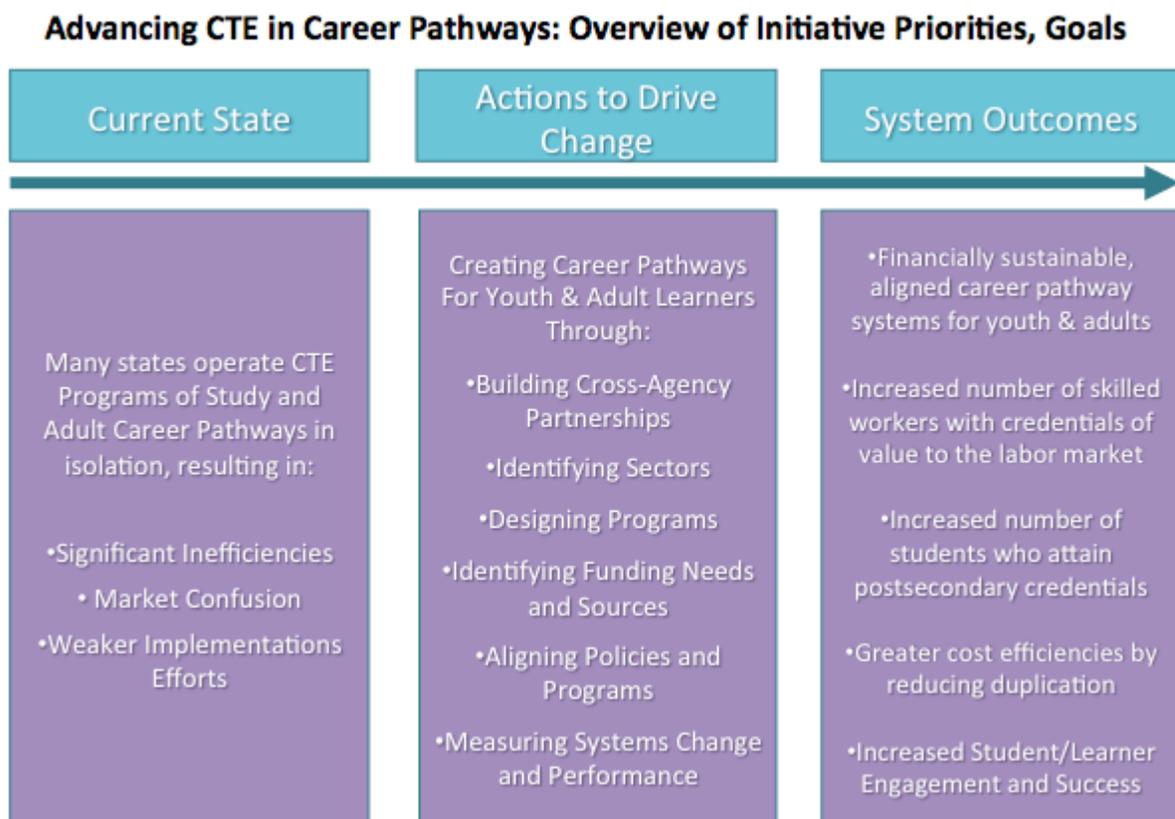
This disconnect is a lost opportunity (*see Graphic 1*). These two systemic change strategies share many common features, including the alignment of policies and programs across levels, the development of strategic cross-agency and cross-sector partnerships, and expectations for cross-system accountability and program improvement. In too many communities, the failure to bring these two systems into closer coordination and alignment has resulted in inefficiencies, weaker implementation and policy confusion. Duplication of effort is common: programs developed for CTE are re-invented by adult-serving systems—or vice-versa. Uncoordinated efforts to engage employers result in the alienation of otherwise interested employers and confusion over how best to participate and advance their interests. The isolation of the two systems has also led to a confusing proliferation of program terminology, services, and accountability measures, some

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS

## INTEGRATED MODEL

unique to CTE Programs of Study and others to Career Pathways, neither very different at their core. Again, this comes at a cost.

The Office of Vocational and Adult Education, working closely with the Employment and Training Administration, has taken the initiative to try to break down these counterproductive silos and encourage closer alignment of CTE Programs of Study and Career Pathways programs in communities and at the state level. Both agencies recognize the value of greater alignment across the two systems in terms of efficiency, replicability and adaptability, alignment of resources and incentives, and clear signals to educational institutions, employers, and students about the road ahead (*see Graphic 2*).



**Graphic 2**

# **ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS**

## **INTEGRATED MODEL**

### **TOWARD AN ALIGNED MODEL FOR YOUTH AND ADULTS: ALIGNING CTE PROGRAMS OF STUDY WITH CAREER PATHWAYS SYSTEMS**

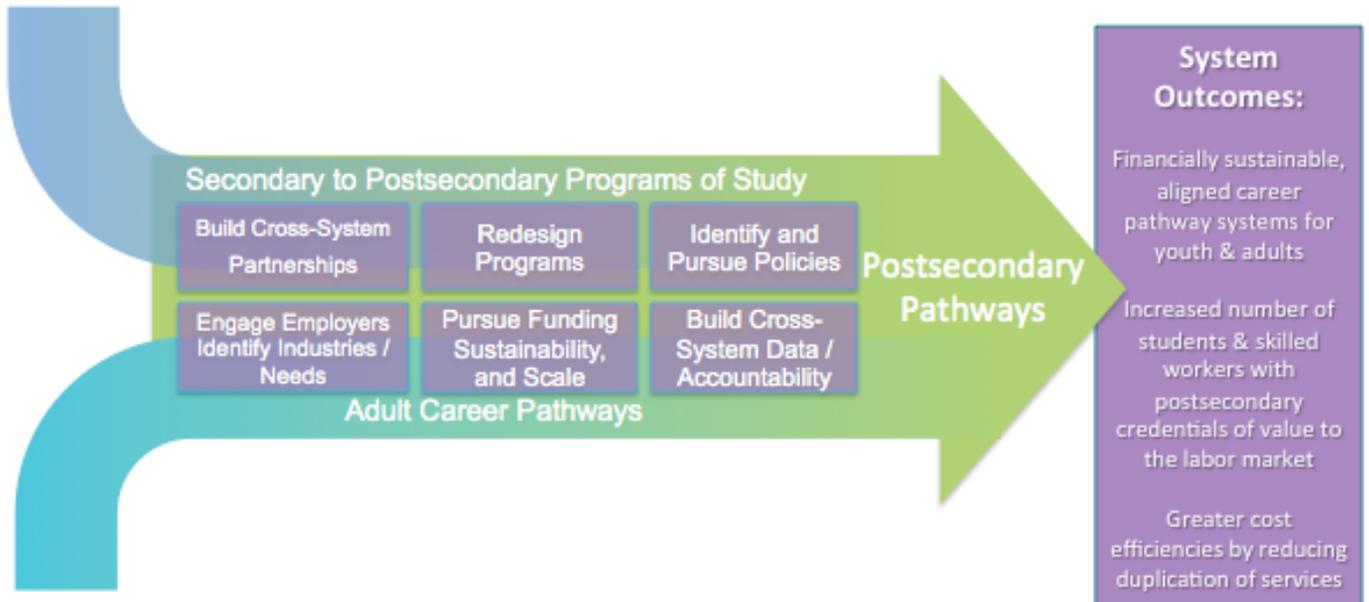
Implementing an integrated Career Pathways System requires alignment across education, training, employment and support services. It also requires collaboration among secondary and postsecondary career and technical education, adult education, and workforce training systems and agencies.

OVAE has contracted with Jobs for the Future (JFF) and its partners to help states accelerate their efforts to strengthen and align these efforts. Over the next two years, technical assistance and peer learning opportunities will guide states' efforts to align CTE Programs of Study with Career Pathways System development efforts (*see Graphic 3*).

One component of the technical assistance that will emerge from this work is a set of tools that illustrate how the ten components in the Rigorous Programs of Study framework align with the Career Pathways six key elements; and how the integration of these two efforts can strengthen one another. This guide is a first attempt to construct and present that combined model. We assume the integrated design model will evolve over time as states provide feedback, but we also feel that this initial guide can assist states to build comprehensive Career Pathways Systems that will help young people and adults earn high value postsecondary credentials.

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS

## INTEGRATED MODEL



**Graphic 3**

**Note:** The Graphic above depicts how the Career Pathways Six Key Elements and the Programs of Study Ten Essential Components can Align to Establish a Comprehensive Career Pathways System (*also see table 2*).

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

## II. ALIGNING THE CTE PROGRAMS OF STUDY AND CAREER PATHWAYS FRAMEWORKS

### FIRST STEP: COMPARING CURRENT DEFINITIONS

As noted above, the federal government has supported the development of definitions and frameworks for both Career Pathways and CTE Programs of Study. Though not yet aligned in most places, these initiatives share many common elements. The Advancing Career and Technical Education in State and Local Career Pathways Systems project is intended to assist states and local communities to recognize these common features, and to integrate CTE programs of study into broader Career Pathways efforts. As shown in the next few pages, these common elements and activities in the Programs of Study and Career Pathways structures provide a helpful starting point for establishing a shared model. It should be noted however, that this effort is not intended to replace the Rigorous Programs of Study framework and its ten components as that work remains vital to the development of Programs of Study.

#### **Agreed Upon Definition of Career Pathways by the U.S. Departments of Labor, Education, Health and Human Services**

A series of connected education and training strategies and support services that enable individuals to secure industry relevant certification and obtain employment within an occupational area and to advance to higher levels of future education and employment in that area.

#### **Career Pathways should include:**

- Alignment of secondary and postsecondary education with workforce development systems and human services;
- Rigorous, sequential, connected, and efficient curricula, that “bridges” courses to connect basic education and skills training and integrate education and training;
- Multiple entry and exit points;
- Comprehensive support services, including career counseling, child care and transportation;
- Financial supports or flexibility to accommodate the demands of the labor market in order to allow individuals to meet their ongoing financial needs and obligations;
- Specific focus on local workforce needs, aligned with the skill needs of targeted industry sectors important to local, regional or state economies, and reflective of the active engagement of employers;
- Curriculum and instructional strategies appropriate for adults, that make work a central context for learning and work readiness skills;
- Credit for prior learning and other strategies that accelerate the educational and career advancement of the participant;
- Organized services to meet the particular needs of adults, including accommodating work schedules with flexible and non-semester-based scheduling, alternative class times and locations, and the innovative use of technology;
- Services that have among their goals a focus on secondary and postsecondary industry recognized credentials, sector specific employment, and advancement over time in education and employment within a sector; and
- Is founded upon and managed through a collaborative partnership among workforce, education, human service agencies, business, and other community stakeholders.

#### **OVAE-Supported CTE Programs of Study Definition CTE programs of study at a minimum, must:**

- Incorporate and align secondary and postsecondary education elements;
- Include academic and CTE content in a coordinated, non-duplicative progression of courses;
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits; and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

# **ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL**

Both Career Pathways and CTE Programs of Study are defined in their federally sponsored initiatives to include:

- Alignment of secondary and postsecondary education
- Connected, sequential, non-duplicative curricula that includes both academic/ basic education content and CTE/skills training
- Opportunities to earn college credit and accelerate credential attainment
- Emphasis on the attainment of postsecondary, industry-recognized credentials, though Programs of Study tend to identify such credentials in connection with states' work on the identification of Career Clusters; and Career Pathways systems are encouraged to take into account the DOL Competency model for the identification of needed skills and credentials.

Given that the low-skilled adult population has different needs and constraints than the high school student population who participates in the secondary component of Programs of Study, there are some purposeful differences between the Career Pathways and Programs of Study definitions, including Career Pathways' prioritization of:

- Stackable credentials with value in the labor market
- The degree of focus on support services and financial supports
- Instructional strategies and course offerings designed to meet the needs of working adults.

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

## NEXT STEP:

### A CROSSWALK OF THE CAREER PATHWAYS AND CTE PROGRAMS OF STUDY FRAMEWORKS

The crosswalk (*see Tables 1 and 2*) on the next page highlights the considerable overlap between the definitional frameworks developed for Career Pathways and Programs of Study. While there are many similarities between Career Pathways and Programs of Study, there are also important differences. For example, the Career Pathways framework focuses more on the systems-level elements that support Career Pathways development while the Programs of Study framework focuses more on programmatic features, such as curriculum and content standards, and professional development. The Programs of Study framework emphasizes the needs of secondary students and their transitions to and through postsecondary education and training; while the current Career Pathways framework tends to focus on the needs of low-skilled adults as they transition to and through postsecondary education and training.

The following table shows the Six Key Elements identified for Career Pathways and the Ten Essential Components for Programs of Study, followed by a crosswalk that details the similarities between the two initiatives, a comparison that should help states and local communities align these two approaches more effectively and easily.

**Table 1**

Career Pathways Six Key Elements	Programs of Study 10 Essential Components
1) Build Cross-Agency Partnerships	1) Legislation and Policies
2) Identify Industry Sectors and Engage Employers	2) Partnerships
3) Design Education and Training Programs	3) Professional Development
4) Align Policies and Programs	4) Accountability and Evaluation Systems
5) Identify Funding Needs and Strategies	5) College and Career Readiness Standards
6) Measure System Change and Performance	6) Course Sequences
	7) Credit Transfer Agreements
	8) Guidance, Counseling, Academic Advisement
	9) Teaching and Learning Strategies
	10) Technical Skills Assessment

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

**Table 2**

CAREER PATHWAYS (CP) SIX KEY ELEMENTS	PROGRAMS OF STUDY (POS) TEN COMPONENTS	COMMON FEATURES
<b>1. Build Cross-Agency Partnerships</b>	#2: Partnerships	<ul style="list-style-type: none"> <li>• Cross-agency partnerships include education, business, workforce, economic development and community stakeholders</li> <li>• Common vision and goals</li> <li>• Clearly delineated and agreed upon roles/responsibilities for all partners</li> </ul>
<b>2. Identify Industry Sectors and Engage Employers</b>	#2: Partnerships #10: Technical Skills Assessment	<ul style="list-style-type: none"> <li>• Both CP and POS frameworks stress the analysis and validation of economic and workforce trends, and adaptation of pathways accordingly</li> </ul>
<b>3. Design Education and Training Programs</b>	#5: College and Career Readiness Standards #6: Course Sequences #7: Credit Transfer Agreements #8: Guidance Counseling and Academic Advising #9: Teaching and Learning Strategies #10: Technical Skills Assessment #3: Professional Development	<ul style="list-style-type: none"> <li>• Clear, non-duplicative sequences of course</li> <li>• Opportunities to earn college credit leading to industry-recognized, postsecondary credentials</li> <li>• Credit transfer / articulation agreements</li> <li>• Counseling, including career planning and academic advisement</li> <li>• Support services, especially in CP</li> <li>• Contextualization and modularization of curricula, and mapping of pathways</li> <li>• Integrated instruction of academic and technical content, acceleration (dual enrollment in POS; co-enrollment in CP)</li> <li>• Instructional strategies that instill work readiness skills</li> </ul>
<b>4. Align Programs and Policies</b>	#1: Legislation and Policies #3: Professional Development (policy implications)	<ul style="list-style-type: none"> <li>• Emphasis on the role of federal, state, and local policies in promoting and sustaining CP and POS; and in helping students access CP and POS services</li> </ul>
<b>5. Identify Funding Needs and Strategies</b>	#1: Legislation and Policies	<ul style="list-style-type: none"> <li>• Braided or integrated funding from multiple funding sources to provide sufficient resources and sustain programs</li> <li>• Importance of funding to support professional development and other system development activities</li> </ul>
<b>6. Measure Systems Change and Performance</b>	#4: Accountability and Evaluation Systems #10: Technical Skills Assessment	<ul style="list-style-type: none"> <li>• Importance of defining outcomes/ measuring progress</li> <li>• Processes for collecting, storing, analyzing and sharing data are encouraged in both CP and POS frameworks</li> </ul>

# **ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL**

## **III. AN INTEGRATED MODEL FOR ALIGNING PROGRAMS OF STUDY AND CAREER PATHWAYS SYSTEMS: STATE PRIORITIES AND STRATEGIES**

Successful efforts to integrate CTE Programs of Study with Career Pathways Systems development will require a commitment from multiple partners to working together toward greater transparency, alignment and systemic change. To assist with this process, JFF has integrated the joint consensus definition and framework for Career Pathways, with OVAE's Programs of Study definition and components into a single model to help states and local communities identify priorities, opportunities and strategies for developing comprehensive Career Pathways Systems that include CTE programs of study. This model as well as Graphic 4 should help states and local communities visualize how a comprehensive Career Pathways System can serve both high school age youth as well as adults. And it should promote collaboration, alignment and cross-system development of structured pathways into and through postsecondary credential programs.

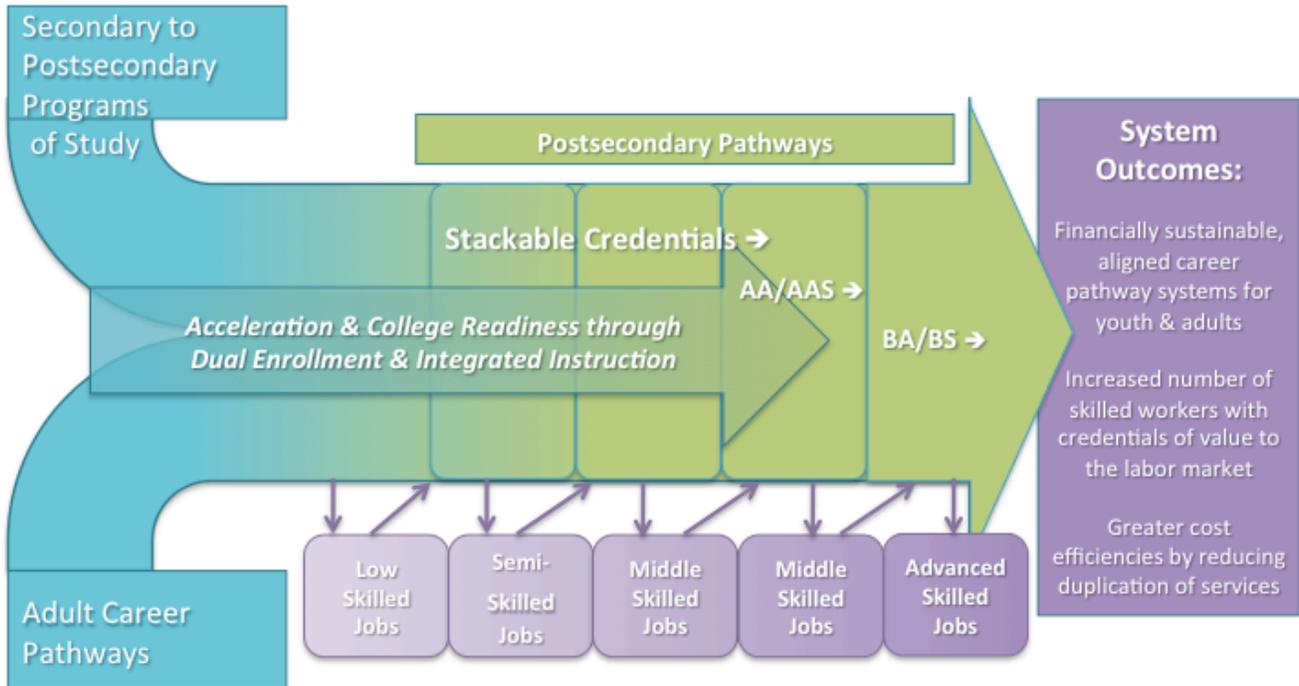
The model, presented in Table 3, will serve as the guiding structure for the tools, resources and coaching provided throughout this initiative, as well as for the milestones against which state and local progress will be measured. It is organized around the six key elements of comprehensive Career Pathways Systems and incorporates the Programs of Study Ten Components. For each element, a short definition and description is provided, capturing what it would look like for states to pursue policies and promote strategies that advance Programs of Study and Career Pathways in a more coherent and synergistic way. The model goes a step further, identifying strategies, most taken from state efforts around the country, that are proving effective in the design, delivery, and diffusion of a better aligned system engaging both CTE Programs of Study and Career Pathways.

Over the course of this initiative, JFF will further expand and adapt this model so states can use it to guide their planning, implementation and support efforts. We intend for this model to be a living document that is improved through experience and learning over time—and that it becomes a touchstone for other states nationally, not just the states participating in this initiative.

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS

## INTEGRATED MODEL

The Postsecondary Alignment of Programs of Study and Adult Career Pathways



Graphic 4

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

**Table 3. Integrated Model for Comprehensive Career Pathways Systems**

1. BUILD CROSS-SYSTEM PARTNERSHIPS	2. ENGAGE EMPLOYERS, IDENTIFY KEY INDUSTRIES AND ALIGN SYSTEM WITH INDUSTRY NEEDS
<p>Building comprehensive Career Pathways Systems that include CTE programs of study requires the alignment of multiple federal, state and local programs, and a commitment to changes that span multiple state and local agencies, and the public and private sectors (including employers in high demand industry sectors and occupations). To succeed, states and local communities must forge partnerships that bring together a wide range of state/local agencies, employers, community-based organizations and other system stakeholders to agree upon a common vision and goals for the comprehensive career pathways system.</p>	<p>Comprehensive Career Pathways Systems must allow students to earn industry-recognized, postsecondary credentials that correspond to the skill needs of employers in high demand industries. In addition, comprehensive Career Pathways Systems must develop shared processes for: identifying the skills that are in-demand in the state and in regional economies; determining how students are deemed proficient in these skills; and determining how employers can best validate curriculum and credential alignment.</p>
<p><b>Strategies:</b></p> <ul style="list-style-type: none"> <li>• Establish a career pathways team that includes state and local leaders from across secondary and postsecondary education (including CTE), adult education, workforce development, human services, economic development, justice and the private sector, including employers from high demand industry sectors and occupations.</li> <li>• Conduct service mapping to identify shared goals, services, resources, and performance measures across partner programs.</li> <li>• Agree upon and clearly define the roles and responsibilities of each partner for the development and implementation of the comprehensive Career Pathways system, formally committing to those roles and responsibilities in a memorandum of understanding (MOU), ensuring that all partners are empowered to make or influence decisions.</li> <li>• Identify a lead and coordinator at the state and local levels to coordinate day-to-day operations, convene partners, broker opportunities, lead planning, and evaluate the development and progress of the comprehensive Career Pathways System.</li> </ul>	<p><b>Strategies:</b></p> <ul style="list-style-type: none"> <li>• Use multiple-dataset labor market analyses, real time data, and employer advisory groups or partnerships to inform high demand industry sector identification, as well as curriculum and system design.</li> <li>• Target high-demand industry sectors for establishment of pathways in the comprehensive Career Pathways System.</li> <li>• Compare capacity of education and training systems to needs of employers, identify and address skills gaps.</li> <li>• Identify key employers as partners from the targeted sectors and provide unified outreach.</li> <li>• Utilize technical skills assessments that:             <ul style="list-style-type: none"> <li>○ Measure skills attainment and the application of knowledge at multiple points along a pathway;</li> <li>○ Use industry-recognized assessments and credentials; use state assessments where industry credentials do not exist;</li> <li>○ Award postsecondary credit and/or industry recognized credentials</li> </ul> </li> <li>• Use partnerships with employers to regularly test the validity of technical skills expectations and credentials.</li> <li>• Incorporate “employability” or “soft” skills into technical skills curricula and instructional strategies. (cte.ed.gov)</li> </ul>

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

3. REDESIGN PROGRAMS TO ACHIEVE SYSTEM GOALS	4. PURSUE NEEDED FUNDING, SUSTAINABILITY AND SCALE
<p>Program redesign is essential to Career Pathways Systems change and should incorporate elements that promote student success and timely progress to completion, credential attainment, and entry into or progress within careers in high demand occupations. Pathways must be flexible, non-duplicative and accelerated—structured to accommodate the unique needs of youth and adults. Each education level must be carefully articulated to the next, without duplication, with effective academic and career supports and counseling, particularly at points of entry and transition.</p>	<p>Declining federal, state and local education and training investments, combined with the cross-agency nature of comprehensive Career Pathways System redesign, makes “braided funding” a critical strategy to pay for the costs of student participation, particularly in postsecondary education and training; and for program development and implementation. This approach paired with efforts to raise additional funding (including alternative financing strategies) and to provide incentives for career pathways development among system stakeholders, will provide a foundation for sustaining and scaling aligned pathways for youth and adults.</p>
<p><b>Strategies:</b></p> <ul style="list-style-type: none"> <li>• Ensure course content, credit and credentials are sequential and non-duplicative, with one education level articulated to the next so students’ progress along pathways results in credential attainment and/or a degree, and in employment or progression in a high demand career.</li> <li>• Ensure that curricula are aligned with rigorous college and career readiness standards.</li> <li>• Design secondary level courses along the lines of a skills pyramid, with broad foundational content offered at the introductory level, applying to the many careers encompassed within a cluster, with courses becoming more occupationally focused and skills-specific as students progress to the postsecondary level.</li> <li>• Organize coursework for adults to meet their needs, including modularized curricula, stackable credentials with value in the labor market (with programs built and organized around DOL competency models that may also follow the lines of a pyramid, to the extent practicable); non-semester-based scheduling, alternative class times and locations; and the innovative uses of technology. <a href="http://www.careeronestop.org/competencymodel">http://www.careeronestop.org/competencymodel</a></li> <li>• Provide comprehensive academic and career counseling to students at all levels, particularly at the beginning of a POS/CP, and at points of transition along the pathway.</li> <li>• Identify and promote opportunities for secondary students to engage in dual enrollment (high school and postsecondary education courses), and for low-skilled adults to engage in co-enrollment (adult education and postsecondary occupational training)—allowing students to earn college credit while still in high school or in adult education programs, respectively.</li> </ul>	<p><b>Strategies:</b></p> <ul style="list-style-type: none"> <li>• Identify costs associated with system redesign, development and operations; and costs associated with student participation, particularly at the postsecondary level (e.g., tuition, books).</li> <li>• Identify areas of overlap especially between Programs of Study and adult Career Pathways; explore ways system alignment may lead to efficiencies and savings.</li> <li>• Conduct unified outreach to raise awareness and build support for comprehensive Career Pathways among key stakeholder groups including business leaders and policymakers.</li> <li>• Identify and seek out new funding sources and implement new funding strategies to “braid” multiple funding sources (including local, state and national public and private initiatives).</li> <li>• Examine opportunities for alternative financing (e.g., bond financing, augmented FTE, employer-provided training, apprenticeships).</li> <li>• Jointly develop a sustainability plan.</li> <li>• Jointly set goals for scaling.</li> </ul>

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

Program Redesign Continued.

- Promote interdisciplinary planning and teaching among academic and CTE teachers, and postsecondary technical and basic skills instructors (for low-skilled adults), with the goal of integrated instruction and acceleration.
- Use contextualized content and instructional strategies that teach team building, critical thinking, communication and other work-readiness competencies.
- Incorporate prior-learning assessments and competency-based education and training models wherever possible, particularly at the postsecondary level
- Develop career maps that can be used across secondary and postsecondary systems, resulting in credential or degree attainment and in high demand careers
- Identify, validate and keep current technical and workforce readiness skills (using industry developed or recognized assessments and credentials with value in the labor market where available, and state developed assessments and credentials where industry-recognized qualifications do not exist).

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

5. IDENTIFY AND PURSUE NEEDED POLICY CHANGES	6. IDENTIFY AND IMPLEMENT CROSS-SYSTEM DATA AND ACCOUNTABILITY SYSTEMS
<p>Each state and local area that is involved in the development of a comprehensive Career Pathways System has a unique set of statutory and administrative policies that affect their ability to align programs and achieve cross-system goals. Similarly, each participating state and local agency sets and/or oversees statutory requirements, rules, regulations, goals and performance measurement requirements that govern the programs under their jurisdiction. These policies and procedures must be identified, analyzed and changed when they act as barriers to system alignment and to the development of comprehensive Career Pathways Systems. Similarly, new policies to encourage better alignment and outcomes should be implemented.</p>	<p>To measure the impact of comprehensive Career Pathways Systems, states must find ways to measure cross-system performance and participants’ progress beyond what is required for individual program performance accountability and data collection within individual agencies. Cross-system data collection, analysis and performance measurement should be a priority. Identifying appropriate cross-system outcome measures and holding partner provider systems accountable for making progress based on those measures will require the development of structures and strategies for gathering and sharing quantitative and qualitative data across agencies and partners.</p>
<p><b>Strategies:</b></p> <ul style="list-style-type: none"> <li>• Conduct a cross-agency policy audit (at the state and local levels) to determine points of alignment across participating programs and agencies, as well as barriers to collaboration.</li> <li>• Once a policy audit is completed, identify policy changes that are needed, statutory or administrative, to eliminate barriers and to drive the systemic changes that are necessary for development of a comprehensive Career Pathways System in the state and local area.</li> <li>• In addition to formal policy barriers to system alignment, state and local teams should also examine informal, perceived policy and cultural impediments to systems change that stand in the way of progress (at state, local and institutional levels).</li> <li>• Working as a team, identify and make those changes that can be made across agencies and institutions without legislative or complex administrative actions (e.g., informal policy or cultural changes); work to craft and build support for more complex legislative and administrative changes that are necessary.</li> <li>• Examples of changes that may be pursued include policies ranging from encouragement for dual and co-enrollment; statewide articulation agreements; increased flexibility for student aid eligibility; to elimination of barriers to cross-system alignment</li> </ul>	<p><b>Strategies:</b></p> <ul style="list-style-type: none"> <li>• Identify system changes and performance indicators, including the participant outcomes that are needed to determine the effectiveness of a comprehensive Career Pathways system that extends from secondary CTE and Adult Education to and through postsecondary credential attainment and employment in high demand occupations.</li> <li>• Ensure college and career readiness standards are: <ul style="list-style-type: none"> <li>○ Consistent across secondary and postsecondary systems;</li> <li>○ Reflective of math and English knowledge levels expected of high school graduates; and</li> <li>○ Incorporate industry-recognized technical standards</li> </ul> </li> <li>• Align state databases, either through sharing agreements or through incorporation into a P-20 data warehouse, and consider how data will be stored, tracked and shared.</li> <li>• Focus on improvements to metrics and data collection methods.</li> <li>• Set long- and short-term goals; measure progress against them.</li> <li>• Provide timely data evaluating effectiveness of alignment.</li> <li>• Ensure data is used to drive decision-making. <ul style="list-style-type: none"> <li>○ Use disaggregated data to identify and close participation, educational attainment and employment gaps between different student populations.</li> </ul> </li> </ul>

# ADVANCING CAREER AND TECHNICAL EDUCATION (CTE) IN CAREER PATHWAYS SYSTEMS INTEGRATED MODEL

## IV. CONCLUSION

The *Advancing Career and Technical Education (CTE) in State and Local Career Pathways Systems* project is designed to help states and local communities integrate CTE Programs of Study into their broader Career Pathways System development efforts. Outcomes from this initiative are expected to yield:

- Improved opportunities for students, beginning in secondary school for school-aged youth or in adult education programs for low-skilled adults, to enter into pathways that will take them to and through postsecondary education;
- Greater numbers of individuals who attain industry-recognized credentials and degrees with value to employers in the state and regional labor markets; and
- Increased numbers of individuals who attain employment in high demand industries and occupations.

Many states have embraced the development of Career Pathways Systems, particularly for meeting the education and training needs of low-skilled adults. At the same time, states are developing rigorous Programs of Study within their CTE systems that expand opportunities for secondary CTE students to advance in postsecondary education and training that leads to industry-recognized credentials or degrees, and to good jobs.

While Career Pathways and Programs of Study share similar design features and intended goals, these efforts are developing on parallel tracks. This misalignment is inefficient at best, and counterproductive to the development and delivery of the highest quality and most relevant services for students, jobseekers, workers and employers.

This project is intended to bridge these efforts—taking the best of both initiatives to build comprehensive Career Pathways Systems that lead young people and adults alike to the attainment of industry-recognized postsecondary credentials and to family sustaining careers in high demand industries and occupations.



April 4, 2012

Dear Colleagues:

This letter highlights the joint commitment of the U.S. Departments of Education, Health and Human Services, and Labor to promote the use of career pathways approaches as a promising strategy to help adults acquire marketable skills and industry-recognized credentials through better alignment of education, training and employment, and human and social services among public agencies and with employers. The Departments encourage states to align state resources to support integrated service delivery across Federal and state funding streams and to ensure that interested partners and agencies – whether focused on education, workforce development or human and social services – are aware of this joint commitment for improved collaboration and coordination across programs and funding sources.

As demand for skilled workers increases, the educational attainment level of American workers is declining and some skilled jobs go unfilled. At our current rate of postsecondary graduation, the country will be short over three million postsecondary graduates to fill those jobs by 2018. Increasing the skills of American workers is an economic and business imperative.

Too often our systems for preparing low-skilled youth and adults with marketable and in-demand skills can be complex and difficult to navigate for students, job seekers and employers. Career pathway approaches can offer an efficient and customer-centered approach to training and education by successfully articulating the necessary adult basic education, occupational training, postsecondary education, career and academic advising, and supportive services to enter and progress in a career.

While there are a number of definitions of career pathways, this term generally refers to a *series of connected education and training strategies and support services that enable individuals to secure industry relevant certification and obtain employment within an occupational area and to advance to higher levels of future education and employment in that area*. While our understanding will be further strengthened by research and experience, what we have learned from our investments in this area, in addition to States' efforts in career pathways leads us to believe that essential components of a career pathways approach should include the following:

- Alignment of secondary and postsecondary education with workforce development systems and human services;
- Rigorous, sequential, connected, and efficient curricula, that “bridges” courses to connect basic education and skills training and integrate education and training;
- Multiple entry and exit points;

- Comprehensive support services, including career counseling, child care and transportation;
- Financial supports or flexibility to accommodate the demands of the labor market in order to allow individuals to meet their ongoing financial needs and obligations;
- Specific focus on local workforce needs, aligned with the skill needs of targeted industry sectors important to local, regional or state economies, and reflective of the active engagement of employers;
- Curriculum and instructional strategies appropriate for adults that make work a central context for learning and work readiness skills;
- Credit for prior learning and other strategies that accelerate the educational and career advancement of the participant;
- Organized services to meet the particular needs of adults, including accommodating work schedules with flexible and non-semester-based scheduling, alternative class times and locations, and the innovative use of technology;
- Services that have among their goals a focus on secondary and postsecondary industry recognized credentials, sector specific employment, and advancement over time in education and employment within a sector; and,
- Is founded upon and managed through a collaborative partnership among workforce, education, human service agencies, business, and other community stakeholders.

The Departments encourage state, local, and tribal policymakers to use career pathways approaches to promote alignment among their public workforce, education and social and human services systems. The principles of a career pathways approach support integrated service delivery and strong linkages to local and regional employers. These principles are further outlined in the attachment enclosed with this letter.

The Departments are also taking steps to incorporate career pathways approaches into a wide range of program investments, evaluation and research activities, and technical assistance efforts. A few examples include:

- In an effort funded by the Department of Health and Human Services' Administration for Children and Families, a large-scale evaluation of career pathways programs – Innovative Strategies for Increasing Self-Sufficiency (ISIS) – is underway. This study will test promising approaches within a rigorous evaluation framework in an effort to produce strong evidence of effectiveness. More information on ISIS can be reviewed at <http://www.projectisis.org>.
- To study the efficacy of the framework, the Departments of Labor and Education launched a one-year Career Pathways Initiative in June 2010, funding nine states and two tribal entities to develop sustainable career pathways and promote linkages among system partners. As a result of the Career Pathways Initiative, the Department of Labor's Employment and Training Administration produced a set of technical assistance tools, webinars, and resources to help state, local, and tribal policymakers successfully implement career pathways approaches, including a detailed overview of each grantee's work. The resources are available at [www.learnwork.workforce3one.org](http://www.learnwork.workforce3one.org).

- The Department of Education’s Office of Vocational and Adult Education funds the Designing Instruction for Career Pathways initiative, which seeks to assist state and local adult education providers develop and deliver adult career pathways programs. The website, <http://www.acp-sc.org>, features technical assistance resources, policy briefs, and the latest research on the effectiveness of career pathways.

We urge policymakers to ensure that interested partners and agencies are aware of this joint commitment for improved coordination across systems and work collaboratively to promote the use of career pathways approaches to help American workers advance successfully in the labor market.

Sincerely,

/s/

Brenda Dann-Messier, Ed. D  
Assistant Secretary  
Office of Vocational and Adult Education

/s/

Jane Oates  
Assistant Secretary  
Employment and Training Administration

/s/

George Sheldon  
Acting Assistant Secretary  
Administration for Children and Families

Enclosure

## **Attachment: Guiding Principles for Developing Comprehensive Career Pathways Systems**

This attachment outlines six key activities that state, local and tribal policy-makers can undertake to support the development of successful career pathways programs. One of the hallmarks of career pathways is that it provides a systemic strategy for integrating educational instruction, workforce development, and human services and linking them to labor market trends and employer needs. Connecting the traditional “silos” of education, labor, and human services to form a coherent system facilitates the development of programs that provide a holistic, comprehensive and coordinated set of educational and employment services for individuals. These career pathways programs blend elements from different parts of the workforce, education, and human services systems enabling an individual to move seamlessly between school and work. The more the systems are aligned at the state and local levels, the easier it is to create a level of integration necessary to develop comprehensive programs and ensure an individual’s success.

The Departments believe the following principles can be shared to help states and local areas develop comprehensive career pathways systems. These principles represent the “how-to” of building career pathways and were developed as part of the Career Pathways Initiative (Initiative), a year-long technical assistance program administered by the Departments of Labor and Education. They are based on the experiences of States and local areas that have made significant advances in the development of career pathways systems and were further refined over the period of the Initiative to incorporate feedback from state, local, and tribal practitioners as well as subject matter experts in the area of career pathways.

**Build Cross-Agency Partnerships:** Partnerships are at the heart of career pathways and are essential to making them successful. Key cross agency partners at the local and state levels must be engaged, agree to a shared vision, and gain support from political leaders. Along with employers, State and local partners include, but are not limited to, workforce investment boards, community colleges, adult basic education providers, human services, economic development and community-based organizations and workforce intermediaries. Commitment and participation from the governor’s office and local elected officials is also essential. Roles and responsibilities are clearly defined and formalized.

**Identify Industry Sector and Engage Employers:** Sector-based training strategies that include employers in the design of curricula have demonstrated better employment and earnings outcomes for participants than more traditional approaches<sup>1</sup>. Career pathways systems are designed using real-time labor market information and active employer involvement to ensure that training and education programs meet the skill and competency needs of local employers.

**Design Education and Training Programs:** Career pathways provide a clear sequence of education courses and credentials that meet the skill needs of high-demand industries. Key program design features include contextualized curricula, integrated basic education and

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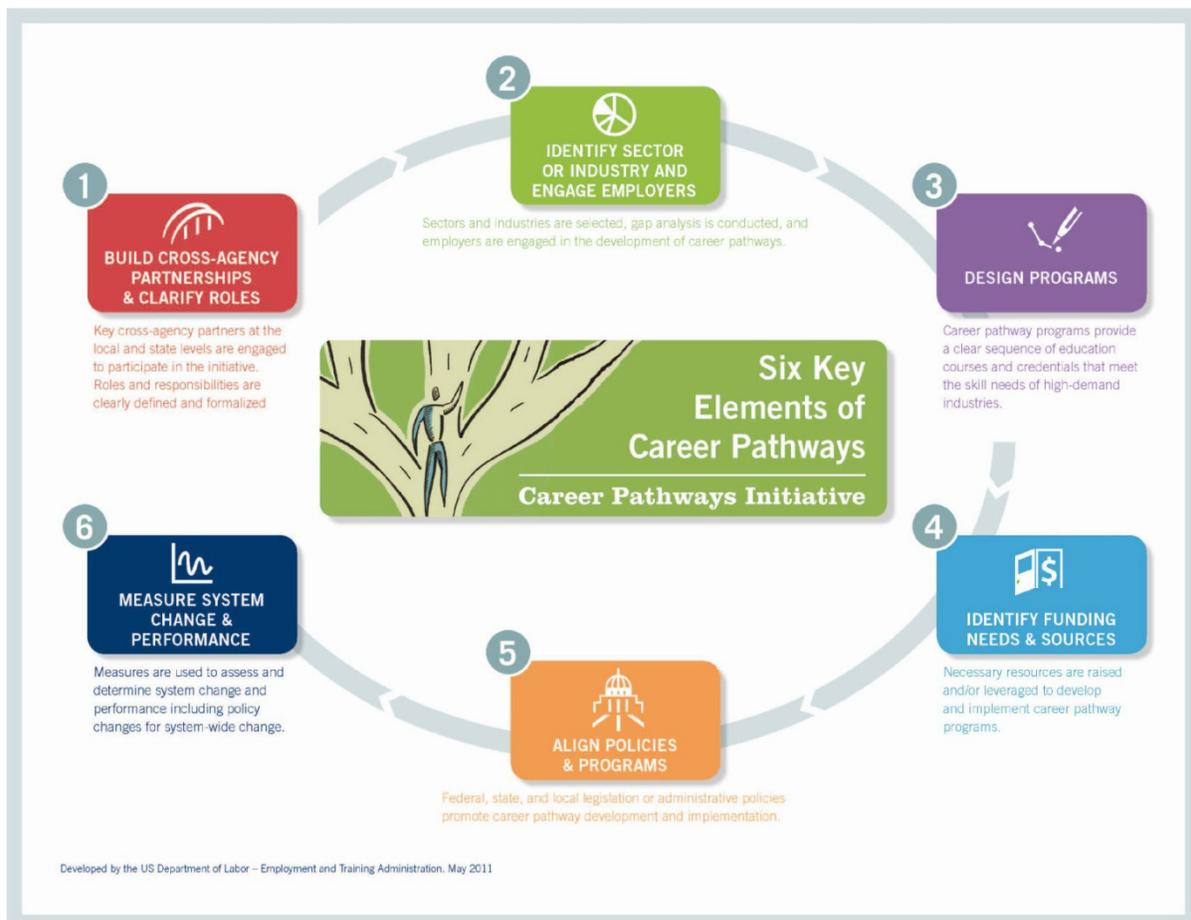
<sup>1</sup> See Maguire, Sheila, Joshua Freely, Carol Clymer, Maureen Conway and Deena Schwartz. 2010. Tuning In to Local Labor Markets: Findings From the Sectoral Employment Impact Study. Public/Private Ventures: New York.

occupational training, career counseling, support services, assessments and credit transfer agreements that ease entry and exit and promote credential attainment.

**Identify Funding Needs and Strategies:** Because career pathways approaches blend and align services from different government agencies to support an individual’s successful completion, innovative funding strategies that braid funds from a variety of public and private sources are essential.

**Align Policies and Programs:** Career pathways programs require significant alignment among workforce, education, and human services to ensure that an individual can move seamlessly from school to work and earn in-demand credentials. Since every state and local area has its own particular policy infrastructure, there is no single approach to creating the public policy necessary for career pathways approaches. States, localities and tribal entities will need to examine whether administrative or legislative policy changes are necessary to help individuals participate in programs, enable blended funding, or support the professional development of staff necessary to support career pathway approaches.

**Measure System Change and Performance:** Career pathways initiatives define desired system and program outcomes; establish how data will be collected, stored, tracked and shared; and analyze data and assess progress made toward achieving outcomes.



# PROGRAM OF STUDY DESIGN FRAMEWORK

*“A program of study is a structured sequence of academic and career and technical courses leading to a postsecondary-level credential.”*

- Operational definition



## **Career and Technical Programs of Study: A Design Framework**

The Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) calls for states to offer “career and technical programs of study,” which may be adopted by local educational agencies and postsecondary institutions, as an option to students (and their parents as appropriate) when planning for and completing future coursework. These programs, at a minimum, must:

- Incorporate and align secondary and postsecondary education elements,
- Include academic and CTE content in a coordinated, non-duplicative progression of courses,
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits, and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

Each local recipient of Perkins funds must offer at least one career and technical program of study.

To help states and local recipients meet these requirements, the Office of Vocational and Adult Education (OVAE), in collaboration with major national associations, organizations, and states, have formulated a “career and technical programs of study design framework (framework).” The framework identifies a system of 10 components that, taken together, support the development and implementation of effective programs of study. Although all 10 components are important, they are neither independent nor of equal priority: State and local program developers must identify the most pressing components for state or local adoption, taking into consideration their relative need within their educational context.

### **PROGRAM OF STUDY (POS) COMPONENTS AND SUBCOMPONENTS**

#### **1. LEGISLATION AND POLICIES**

Federal, state, and local legislation or administrative policies promote POS development and implementation.

Effective legislation and policies should:

- Provide for state and/or local funding and other resources, such as professional development and dedicated staff time, for POS development.
- Establish formal procedures for the design, implementation, and continuous improvement of POS.
- Ensure opportunities for any secondary student to participate in a POS.
- Require secondary students to develop an individual graduation or career plan.
- Provide resources for long term sustainability of POS.

## **2. PARTNERSHIPS**

Ongoing relationships among education, business, and other community stakeholders are central to POS design, implementation, and maintenance.

Collaborative partnerships should:

- Create written memoranda of understanding that elaborate the roles and responsibilities of partnership members.
- Conduct ongoing analyses of economic and workforce trends to identify statewide (or regional) POS to be created, expanded, or discontinued.
- Link into existing initiatives that promote workforce and economic development, such as sector strategies and other activities supported by the Workforce Investment Act.
- Identify, validate, and keep current the technical and workforce readiness skills that should be taught within a POS.

## **3. PROFESSIONAL DEVELOPMENT**

Sustained, intensive, and focused opportunities for administrators, teachers, and faculty foster POS design, implementation, and maintenance.

Effective professional development should:

- Support the alignment of curriculum from grade to grade (9-12) and from secondary to postsecondary education (vertical curriculum alignment).
- Support the development of integrated academic and career and technical curriculum and instruction (horizontal curriculum alignment).
- Ensure that teachers and faculty have the content knowledge to align and integrate curriculum and instruction.
- Foster innovative teaching and learning strategies (see #9 below).

## **4. ACCOUNTABILITY AND EVALUATION SYSTEMS**

Systems and strategies to gather quantitative and qualitative data on both POS components and student outcomes are crucial for ongoing efforts to development and implement POS.

Well-designed accountability and evaluation systems should:

- Include the “10 Essential Elements of A State Longitudinal Data System” identified by the Data Quality Campaign.<sup>1</sup>
- Provide for administrative record matching of student education and employment data (i.e., Unemployment Insurance (UI) wage records).
- Yield valid and reliable data on key student outcomes (indicators) referenced in Perkins and other relevant federal and state legislation.
- Provide timely data to evaluate and improve the effectiveness of POS.

## **5. COLLEGE AND CAREER READINESS STANDARDS**

Content standards that define what students are expected to know and be able to do to enter and advance in college and/or their careers comprise the foundation of a POS.

Rigorous college and career readiness standards should:

- Be developed and continually validated in collaboration with secondary, postsecondary, and industry partners.
- Incorporate essential knowledge and skills (i.e., academic skills, communication, and problem-solving), which students must master regardless of their chosen career area or POS.
- Provide the same rigorous knowledge and skills in English and mathematics that employers and colleges expect of high school graduates.
- Incorporate industry-recognized technical standards that are valued in the workplace.
- To the extent practicable, be internationally benchmarked so that all students are prepared to succeed in a global economy.

## **6. COURSE SEQUENCES**

Non-duplicative sequences of secondary and postsecondary courses within a POS ensure that students transition to postsecondary education without duplicating classes or requiring remedial coursework.

Well-developed course sequences should:

- Map out the recommended academic and career and technical courses in each POS.
- Begin with introductory courses at the secondary level that teach broad foundational knowledge and skills that are common across all POS.
- Progress to more occupationally-specific courses at the postsecondary level that provide knowledge and skills required for entry into and advancement in a chosen POS.
- Offer opportunities for students to earn postsecondary credit for coursework taken during high school.

## **7. CREDIT TRANSFER AGREEMENTS**

Credit transfer agreements provide opportunities for secondary students to be awarded transcribed postsecondary credit, supported with formal agreements among secondary and postsecondary education systems.

Well-development agreements:

- Provide a systematic, seamless process for students to earn college credit for postsecondary courses taken in high school, transfer high school credit to any two- and four-year institution in the state that offers the POS, and transfer credit earned at a two-year college to any other two- or four-year institution in the state that offers the POS.
- College credit should be automatically transcribed at the college for high school students so that they can transfer seamlessly into the postsecondary portion of a POS without the need for additional paperwork or petitioning for credit.
- Describe the expectations and requirements for, at a minimum, teacher and faculty qualifications, course prerequisites, postsecondary entry requirements, location of courses, tuition reimbursement, and credit transfer process.

## **8. GUIDANCE COUNSELING AND ACADEMIC ADVISEMENT**

Guidance counseling and academic advisement help students to make informed decisions about which POS to pursue.

Comprehensive guidance counseling and academic advisement systems:

- Are based on state and/or local guidance and counseling standards, such as the National Career Development Guidelines.<sup>ii</sup>
- Ensure that guidance, counseling, and advisement professionals have access to up-to-date information about POS offerings to aid students in their decision making.
- Offer information and tools to help students learn about postsecondary education and career options, including prerequisites for particular POS.
- Offer resources for students to identify their career interests and aptitudes and to select appropriate POS.
- Provide information and resources for parents to help their children prepare for college and careers, including workshops on college and financial aid applications.
- Offer Web-based resources and tools for obtaining student financial assistance.

## **9. TEACHING AND LEARNING STRATEGIES**

Innovative and creative instructional approaches enable teachers to integrate academic and technical instruction and students to apply academic and technical learning in their POS coursework.

Effective teaching and learning strategies should:

- Be jointly led by interdisciplinary teaching teams of academic and career and technical teachers or faculty.
- Employ contextualized work-based, project-based, and problem-based learning approaches.
- Incorporate team-building, critical thinking, problem-solving, communication skills, such as through the use of career and technical student organization (CTSO) activities.

## **10. TECHNICAL SKILLS ASSESSMENTS**

National, state, and/or local assessments provide ongoing information on the extent to which students are attaining the necessary knowledge and skills for entry into and advancement in postsecondary education and careers in their chosen POS.

Well-developed technical skills assessments:

- Measure student attainment of technical skill proficiencies at multiple points during a POS.
- Employ industry-approved technical skill assessments based on industry standards, where available and appropriate.
- Employ State-developed and/or approved assessments, particularly where industry-approved assessments do not exist.

- Result in the awarding of secondary credit, postsecondary credit, or a special designation on a student's high school diploma.
- Incorporate performance-based assessment items, to the greatest extent possible, where students must demonstrate the application of their knowledge and skills.

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<sup>i</sup> The 10 elements are: (1) statewide student identifier; (2) student-level enrollment data; (3) student-level test data; (4) information on untested students; (5) statewide teacher identifier with a teacher-student match; (6) student-level course completion (transcript) data; (7) student-level SAT, ACT, and Advanced Placement exam data; (8) student-level graduation and dropout data; (9) ability to match student-level P-12 and higher education data; and (10) a state data audit system.

<sup>ii</sup> See [http://cte.ed.gov/acrn/ncdg/ncdg\\_what.htm](http://cte.ed.gov/acrn/ncdg/ncdg_what.htm).



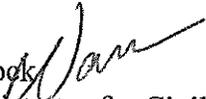
U.S. Department  
of Transportation  
Federal Highway  
Administration

# Memorandum

SENT BY ELECTRONIC MAIL

Subject: **ACTION:** OJT/Supportive Services  
Program FY 2012  
(Reply by: April 16th, 2012)

Date: March 26, 2012

From: Warren S. Whitlock   
Associate Administrator for Civil Rights

In Reply Refer To:  
HCR-10

To: Division Administrators

On-the-Job Supportive Services (OJT/SS) funds are allocated to states to assist in developing and implementing an approved, cost effective and meaningful OJT/SS program. By this memo, I am soliciting FY2012 OJT/SS Statements of Work (SOWS) from State Transportation Agencies (STAs) to recruit, train and employ disadvantaged individuals, minorities and women in the Federal-aid highway construction industry and in transportation-related careers. Submittals of FY 2012 OJT/SS SOWs are due to the FHWA Division Offices no later than Monday, April 16, 2012.

I am requesting that each FHWA Division office work with its STA to ensure the submission of timely and acceptable OJT/SS SOWs. This solicitation requires STAs to submit SOWs that are aimed at effectively increasing the representation of disadvantaged individuals, minorities and women in heavy highway construction career employment opportunities. The OJT/SS program should be linked as an enhancement to the STA's overall, existing OJT program. The OJT/SS program should not be a separate program and shall be an open shop model (i.e. addressing union and non-union perspectives). Examples of acceptable OJT/SS programmatic endeavors include the following:

- job readiness assessments
- registered highway construction training
- registered apprentice training
- Department of Labor approved pre-apprenticeship training
- Department of Education approved construction training
- construction safety training
- commercial drivers license training
- job placement, job recruitment and job counseling

For FY 2012, the Office of Civil Rights (HCR) has been approved to advance a formula-based fund allocation process. Each STA will receive a pro rata share of total FY 2012 OJT/SS funding. This pro rata share of OJT/SS funds will be based on the percent of Federal-aid dollars allocated to the STA by FHWA's Office of the Chief Financial Officer. An example of this new allocation process is as follows: State ABC's FY 2011 highway obligation was 1.7% of

available Federal-aid funds. State ABC's percentage share of OJT/SS funds will be 1.7% of the available OJT/SS funds.

It is anticipated that funds will be available to keep STAs at, or near, historic funding levels. It is anticipated unallocated funds will be re-allocated to STAs requiring higher funding infusions. More information about OJT/SS program funding will be shared during follow up discussions with the Division offices in the next few weeks.

SOWs should utilize recent employment and demographic data to identify areas of employment opportunity in their respective state's highway construction industry. Reputable data sources include the Department of Labor (Standard Metropolitan Statistical Areas for Minority Workforce Utilization Goals and Female Workforce Utilization Goals), the Department of Education, and other respectable, academic and trade industry data.

STAs are expected and encouraged to create programs that will have broad, statewide impact. STAs are also encouraged to perform extensive outreach to notify individuals, services providers, academic and trade organizations of their intentions to develop job training initiatives for FHWA. This outreach will assist STAs in developing strong and relevant SOWs as well as encourage participation of these external stakeholders when their funding has been approved.

STAs must aim to develop metric-based SOWs. For example, "X Number of People will be trained in X Specialty for a cost of X Dollars." While precise outcomes are difficult to predict, we seek to ensure that STAs are contemplating cost effective and appropriate employment training methodologies. The metric-based approach will help ensure solid measurable outcomes are attained.

STAs that are managing existing multi-year OJT/SS programs that are not metric based or without goals for job readiness creation a near term timeframe, should continue to seek to achieve the goals under consideration of their original SOW through the end of their original base term as proposed in their prior year's SOW. However, modifications to these existing OJT/SS programs that advance near-term job readiness and preparedness, are strongly encouraged.

## **STATEMENT OF WORK SUBMISSION PROCESS**

For FY2012, SOWs are due to FHWA Division Offices by close of business on Monday, April 16, 2012. SOWs shall thoroughly describe an STA's proposed use for OJT/SS funds that will provide career job training and skills development. SOWs shall not exceed 10 pages **and** shall not include any additional attachments or exhibits. STAs submitting multiple SOWs must indicate in their cover letter to the FHWA Division office, its submittal preference in rank order priority. STAs shall expect decisions from FHWA on their SOW submissions by Monday, May 7, 2012.

## **EVALUATION PROCESS**

FHWA Division Offices shall review and evaluate SOWs and provide their recommendations to HCR for concurrence and final approval as soon as possible after they have received their

SOW(s). All SOWs are due to HCR by close of business on Friday, April 27, 2012. HCR will review each Division recommendation and SOW to ensure each STA meets the objectives of the OJT/SS program. HCR will work closely with each Division office that advances an SOW to ensure every proposal meets program requirements and expectations.

## **TYPES OF SOWS BEING SOUGHT**

SOWs shall provide direct approaches to job creation in the near-term for disadvantaged individuals, minorities, and women in the transportation construction trades. SOWs shall address how the STA plans to engage, solicit and oversee (project manage) job development programs that align with their overall STA OJT program, providing career paths for individuals in these protected classes. SOWs should address methods of implementation that include, involvement and collaborations with construction and professional trade associations, educational organizations (trade schools, public schools, community colleges, universities) Department of Labor, Department of Education, minority and women advocacy organizations, the not-for-profit community, women construction trade organizations or veterans groups. SOWs should address collaborative efforts with these organizations to attain these goals.

Principal considerations to undertake in the development of these SOWs are:

- **Careers, Not Short Term Jobs.** A focus on long-term sustainable careers (journey person status) as opposed to short term job placement;
- **Partnerships.** Partnerships and leveraged resources from a wide range of partners and other key stakeholders;
- **Meaningful Industry Engagement.** Meaningful and broad industry engagement of key industry representatives at the state and local level that includes both management and labor where appropriate;
- **Strategies to Increase Opportunities for Under-Represented Populations.** Innovative strategies (community workforce agreements, pre-apprenticeship, other...) to provide pathways and increase opportunities for a range of under-represented populations (including women, veterans, disadvantaged youth, etc.) to enter transportation careers;
- **Focus on Results and Outcomes.** Programs that identify clear and measurable measures of success

## **MILESTONE DATES AND DELIVERABLES FOR THE 2012 OJT/SS PROGRAM FUNDING**

The FY 2012 OJT/SS program funding cycle contains several important milestone dates. They are:

- March 30, 2012 – FHWA Division office to notify HCR electronically of date solicitation memo was forwarded to STA, and date STA posts notification of this funding initiative on its Web site or provides other public notification;
- April 6, 2012 - FHWA Division Offices shall notify HCR of its STA's intention to submit, or not submit, an SOW for FY 2012 OJT/SS Program. (*Knowing States'*

*intentions to apply will be a key factor in the determination of possible re-allocation of OJT/SS funds to states having greater funding requirements);*

- April 16, 2012 – STAs shall submit SOWs to FHWA Division Offices. Division offices may begin evaluating, recommending for award and advancing to HCR as soon as they receive their STA's SOW(s), even if that date of receipt is prior to this date;
- April 27, 2012 – FHWA Division Offices shall submit electronically SOWs and recommendations for award to HCR by close of business;
- May 7, 2012 – HCR must complete review and concurrence on SOW approvals and inform the Division Offices of these determinations;

Please address any questions about this year's OJT/SS program to HCR via the following email address: [CivilRights.FHWA@dot.gov](mailto:CivilRights.FHWA@dot.gov). In the email subject line, please begin with the following: "OJT/SS FY 2012."

We look forward to a working with each of you to have a successful OJT/SS program year.

Thank you.