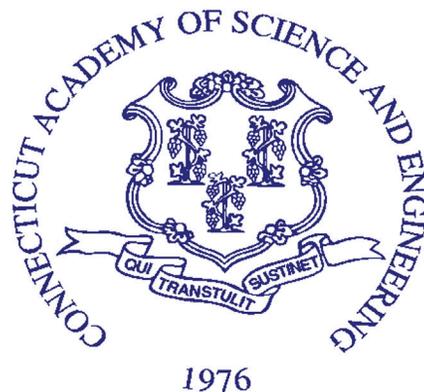


**STRATEGIES FOR EVALUATING THE  
EFFECTIVENESS OF PROGRAMS AND  
RESOURCES FOR ASSURING  
CONNECTICUT'S SKILLED WORKFORCE  
MEETS THE NEEDS OF BUSINESS AND  
INDUSTRY TODAY AND IN THE FUTURE**

**DECEMBER 2012**

**A REPORT BY**

**THE CONNECTICUT  
ACADEMY OF SCIENCE  
AND ENGINEERING**



**FOR**

**THE CONNECTICUT GENERAL ASSEMBLY  
HIGHER EDUCATION AND EMPLOYMENT  
ADVANCEMENT COMMITTEE  
COMMERCE COMMITTEE  
EDUCATION COMMITTEE  
LABOR AND PUBLIC EMPLOYEES COMMITTEE**



**STRATEGIES FOR EVALUATING THE  
EFFECTIVENESS OF PROGRAMS AND  
RESOURCES FOR ASSURING  
CONNECTICUT'S SKILLED WORKFORCE  
MEETS THE NEEDS OF BUSINESS AND  
INDUSTRY TODAY AND IN THE FUTURE**

**A REPORT BY**

**THE CONNECTICUT ACADEMY  
OF SCIENCE AND ENGINEERING**

ORIGIN OF INQUIRY: THE CONNECTICUT GENERAL ASSEMBLY

DATE INQUIRY

ESTABLISHED:

DECEMBER 23, 2011

DATE RESPONSE

RELEASED:

DECEMBER 28, 2012

In accordance with Public Act 11-1, Section 37, the findings of the study shall be reported to the Higher Education and Employment Advancement, Commerce, Education, and Labor and Public Employees Committees of the Connecticut General Assembly.

This study was initiated at the request of the Connecticut General Assembly on December 23, 2011. The project was conducted by an Academy Study Committee with the support of staff of the Connecticut Economic Resource Center serving as the study management team. The content of this report lies within the province of the Academy's Economic Development, Education and Human Resources, and Technology Technical Boards. The report has been reviewed by Academy Members Peter G. Cable, PhD and Herbert S. Levinson, PE. Martha Sherman, the Academy's Managing Editor, edited the report. The report is hereby released with the approval of the Academy Council.

Richard H. Strauss  
Executive Director

CONNECTICUT'S SKILLED WORKFORCE: STRATEGIES FOR MEETING THE NEEDS OF  
BUSINESS AND INDUSTRY TODAY AND IN THE FUTURE

---

MEMBERS OF THE STUDY COMMITTEE ON STRATEGIES FOR  
EVALUATING THE EFFECTIVENESS OF PROGRAMS AND RESOURCES FOR  
ASSURING CONNECTICUT'S SKILLED WORKFORCE MEETS THE NEEDS  
OF BUSINESS AND INDUSTRY TODAY AND IN THE FUTURE

**Stacie Berdan**

Author and International Careers Expert  
SNB Consulting

**Christopher P. Bruhl**

President & CEO  
Business Council of Fairfield County

**Robert Clifford**

Policy Analyst  
New England Public Policy Center  
Federal Reserve Bank of Boston

**Bruce Dixon**

Chief Executive Officer  
CPEP

**Patricia Downs**

Director, Workforce Strategy and Planning  
CCAT

**Niloy K. Dutta, PhD** (*Academy Member*)

Professor of Physics  
University of Connecticut

**Eric Fingerhut**

Vice President for Education and STEM  
Learning  
Battelle

**Craig T. Follins, PhD**

President, Olive-Harvey College  
City Colleges of Chicago

**Mary Holz-Clause, PhD**

Vice President for Economic Development  
University of Connecticut

**Susan Johnson**

Vice President, Strategic Talent Development  
& Diversity  
Pitney Bowes, Inc

**Philip Jordan**

Chief Business Officer, BW Research  
Green LMI Division, Wrentham, MA

**Stephen Lynch**

Senior Project Manager  
Jobs for the Future

**James O'Donnell** (*Academy Member*)

Professor of Marine Sciences, Joint Professor  
of Physics  
University of Connecticut

**Paul R. Pescatello, JD, PhD**

President & CEO  
CURE

**Michael Polo**

President/CEO  
ACMT AdChem Mfg Technologies

**Karl M. Prewo, DrEngSc** (*Academy Member*)

President  
Innovatech

**Devdas Shetty, PhD** (*Academy Member*)

Dean of Research, School of Engineering  
University of Hartford

**Navjeet Singh**

Deputy Director  
National Fund for Workforce Solutions

**Tarek M. Sobh, PhD** (*Academy Member*)

Vice President for Graduate Studies and  
Dean of the School of Engineering  
University of Bridgeport

**Susanne D. Spargo**

Vice President, Human Resources  
Mott Corporation, Farmington, CT

**Kanishka Tankala, PhD** (*Academy Member*)

Vice President of Operations  
Nufern, East Granby, CT

MEMBERS OF THE STUDY COMMITTEE ON STRATEGIES FOR  
EVALUATING THE EFFECTIVENESS OF PROGRAMS AND RESOURCES FOR  
ASSURING CONNECTICUT'S SKILLED WORKFORCE MEETS THE NEEDS  
OF BUSINESS AND INDUSTRY TODAY AND IN THE FUTURE

*(continued)*

RESEARCH TEAM

STUDY MANAGER

**Alissa K. DeJonge**, Director of Research, Connecticut Economic Resource Center

STUDY RESEARCH CONSULTANT

**Michelle Riordan-Nold**, Research Consultant, Connecticut Economic Resource Center

RESEARCH ASSOCIATE

**Matthew Ross**, Research Associate, Connecticut Economic Resource Center

ACADEMY PROJECT STAFF

**Richard H. Strauss**, Executive Director

**Bruce Carlson**, Associate Project Director

**Terri Clark**, Associate Director

**Ann G. Bertini**, Assistant Director for Programs

## TABLE OF CONTENTS

TABLE OF CONTENTS.....	v
EXECUTIVE SUMMARY.....	vii
STUDY BACKGROUND .....	1
INTRODUCTION .....	5
2009 LEGISLATIVE PROGRAM REVIEW AND INVESTIGATIONS (PRI) COMMITTEE REPORT: ALIGNMENT OF POSTSECONDARY EDUCATION AND EMPLOYMENT .....	7
CURRENT SYSTEM.....	13
Educational System .....	15
State Agencies.....	23
Other Related Entities - Councils and Offices.....	25
RECENT LEGISLATIVE CHANGES.....	33
ALIGNMENT PROGRESS IN STEM OCCUPATIONS .....	39
FINDINGS AND RECOMMENDATIONS.....	61
Organizational Structure and Leadership.....	62
Data and Information .....	69
Education and Business/Industry Link.....	77
Where can Connecticut Achieve the Greatest Return on Taxpayer Investment?.....	90
CONCLUDING REMARKS.....	103
APPENDICES .....	105
Appendix A: Focus Group Summary .....	105
Appendix B: Summary of Research Interviews.....	109
Appendix C: Detailed Findings from Program Review and Investigations Committee 2009 Study "Alignment of Postsecondary Education and Employment" .....	111
Appendix D: Strategic Document Review.....	114
Appendix E: Study Committee Meetings and Guest Speakers.....	121

CONNECTICUT'S SKILLED WORKFORCE: STRATEGIES FOR MEETING THE NEEDS OF  
BUSINESS AND INDUSTRY TODAY AND IN THE FUTURE

---

## EXECUTIVE SUMMARY

### STUDY PURPOSE AND METHODOLOGY

The General Assembly tasked the Connecticut Academy of Science and Engineering (CASE) with studying the workforce alignment system in Connecticut. The impetus for this study was the recognition that on the heels of the Great Recession, the state did not have an effective workforce alignment system to assist residents and businesses in their recovery from the economic downturn. This study was conducted at a time in which the General Assembly and the governor were realigning the workforce system and actively pursuing fundamental structural reforms.

The study's goal is to identify strategies and mechanisms to assess and evaluate the value and effectiveness of those state programs and resources that have a goal of providing businesses and industries in Connecticut with a skilled workforce (with a focus on fields related to science, technology, engineering and mathematics) that meets the needs and expectations of employers, and at the same time, seeks to ensure that students receive the education they need and expect to successfully work in today's jobs/careers and in the jobs/careers of the future. This study is not an evaluation of particular programs or industries in Connecticut, but rather, provides guidance to assure that the state continually maintains an agile, flexible workforce system that can respond to needs of residents and businesses in a constantly changing environment.

A variety of study methods were used to gather data and information for this report. During the CASE study committee meetings, which were conducted throughout the study period, presentations were given by national experts on workforce alignment, representatives from state agencies and state-based businesses, and educators. In addition to the committee meeting presentations, the research staff conducted interviews of various workforce system stakeholders. In addition, focus group sessions were conducted throughout the state. These sessions included representation from secondary and higher education, state agencies, labor and trade associations, the regional workforce investment boards, and industry representatives from small to large manufacturers, healthcare, the nonprofit sector, and technology firms.

The study committee developed a workforce alignment vision that guided the study's research, findings and recommendations, as follows:

*Workforce alignment is the efficient and flexible collaboration of state and local public and private entities that educates and trains a dynamic and globally competent workforce that (1) obtains sustainable jobs, (2) provides value to the current and future needs of businesses and industries, and (3) is an asset for the region to attract and retain workers.*

### SUMMARY OF FINDINGS & RECOMMENDATIONS

The economic well-being of the State of Connecticut and its citizens and businesses is dependent on a vibrant and globally competitive state economy. Therefore, preparing the state's workforce for the jobs of today and tomorrow must be a state priority of the highest level. The workforce system in its broadest form spans an individual's lifetime from pre-natal development through

retirement. It is a complex system that requires coordination, collaboration, and continuous review and improvement of programs and initiatives provided by many state agencies and others (many with principal missions not specifically focused on workforce issues) in order to meet the changing needs of business and industry, and the state's residents.

The CASE study committee's recommendations focus on several areas, with the goal of achieving an effective, aligned workforce system that can adapt to the changing needs of the future workforce. Below is a brief overall summary of findings and recommendations; these are followed by a summary of the specific findings and recommendations for each of the areas examined.

- A statewide workforce system should be coordinated to assure that
  1. clear objectives are established and progress is monitored;
  2. education, economic development and workforce program entities are held accountable regarding each entity's responsibilities related to workforce issues;
  3. implementation of strategies related to the workforce system are assessed and outcomes monitored; and
  4. a system is created that can address and adapt to transformations and globally emerging trends.
- Data and information that provide historical and projected future workforce trends are necessary for informed decision making regarding state and federal investments in workforce-related programs. A data-informed system will ensure that agencies and others with workforce-related responsibilities are held accountable for results and outcomes.
- The needs of business and industry, and therefore how the education and training system prepares students and adults for workforce opportunities, are paramount. The workforce leadership responsibilities of the Connecticut Office of Workforce Competitiveness (OWC) should include facilitating the development of relationships between and across the education and business and industry communities. Also, education and training initiatives should be integrated with key economic growth strategic initiatives to assure workers have the skills needed to support the business sectors identified by the Department of Economic and Community Development (DECD) as key to Connecticut's future.
- Workforce programs and initiatives are principally supported by state and federal funding. Determining where Connecticut can achieve the greatest impact and outcomes requires program evaluation and analysis of available data. Program investments can be targeted to address short-, medium- and long-term goals. Flexibility in use of funds provided by the state and federal government is necessary to provide funding to the types of programs necessary to address each of these time horizons and changes in the economy. The state should advocate for more flexible use of federal funding to better meet the needs and priorities of individual states.
- As a result of the preceding recommendations, it is suggested that the organizational structure of the state's workforce system should be changed to provide focused leadership to create the best opportunity to achieve desired outcomes. OWC should be an independent office that reports directly to the governor and is housed for administrative purposes only within the Office of Policy and Management (OPM). This

will provide OWC with the authority, on behalf of the governor, to assure accountability of all agencies and organizations with workforce system-related responsibilities.

## **ORGANIZATIONAL STRUCTURE AND LEADERSHIP**

### **FINDINGS:**

The state's current organizational structure enhances the potential for inefficiencies and merely encourages voluntary coordination among state agencies and entities involved in the workforce continuum. This results in inconsistent levels of coordination and collaboration, frequent duplication of efforts, and an inefficient use of resources.

OWC, which serves the Connecticut Employment and Training Commission (CETC) in a support function, and is under the direction of the commissioner of the Department of Labor (DOL), lacks the authority to successfully provide leadership and visibility for state workforce programs and initiatives, and to overcome state agency resistance to system improvement to achieve desired outcomes. Since OWC is an office within DOL, it may appear that it is providing guidance under the direction of DOL as opposed to direction from the governor. This type of structure can create friction among state agencies and does not provide OWC with authority to act on behalf of the governor or to garner the greatest level of cooperation and collaboration among the diverse group of state agencies and private sector partners comprising the workforce system. Importantly, even if OWC is given additional authority, success will depend on implementation by the individual agencies in the workforce continuum including, but not limited to, the Connecticut State Department of Education (SDE), the Board of Regents (BOR), the University of Connecticut (UConn), DOL, DECD, and regional workforce investment boards.

Also, because there is no single entity in the state responsible for coordinating workforce resources and programs, there are often many pilot programs conducted throughout the state but rarely brought to scale statewide. Further, pilot programs are often terminated when the grant or federal money ends. Although a small state, Connecticut offers the future workforce a wide array of higher education opportunities. However, the state's institutions of higher education must collaborate and coordinate resources in order to raise the visibility of the opportunities that exist in the state.

### **RECOMMENDATIONS:**

1. Several organizational structures were examined. It is recommended that the leadership for the workforce system take the following form:
  - In order to assure accountability within the workforce system, the first step is to evaluate existing programs' goals and outcomes, then determine what the desired outcomes of workforce development policy for the state should be. OWC should be designated to serve as the entity that has the authority to
    - o work directly with the governor to set objectives, monitor progress, and hold the education, economic development and workforce program entities accountable regarding workforce issues;

- o assess the implementation of the strategies related to workforce;
- o create a system that can address and adapt to transformations and globally emerging techniques; and
- o manage the comprehensive longitudinal workforce data system (with guidance from CETC's Planning and Performance Committee).

Therefore, OWC should work with state agencies and public higher education institutions to evaluate existing programs and establish measurable goals. A key responsibility for OWC is to serve as the "synthesizer and analyzer" of information as shown in Figure ES-1 for the purpose of workforce investment decision making.

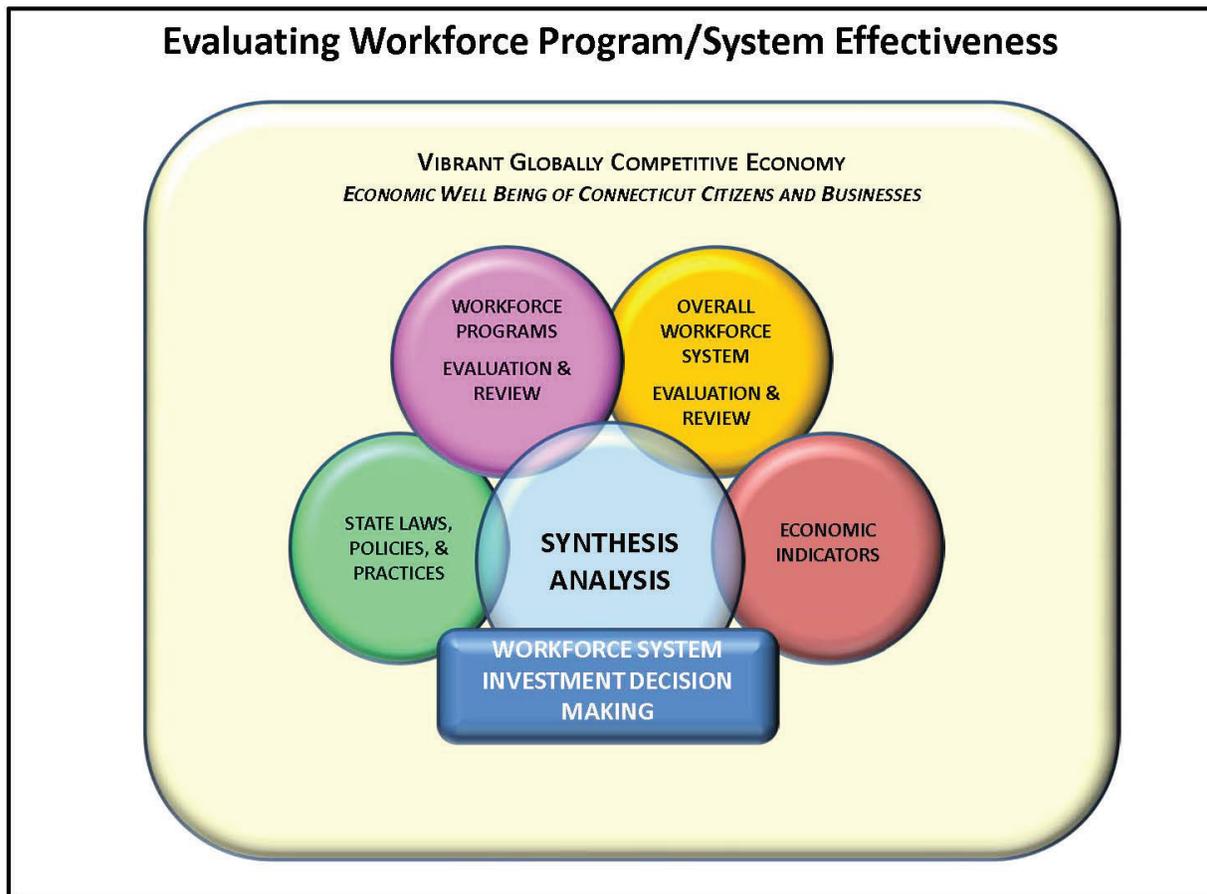


FIGURE ES-1: EVALUATING WORKFORCE PROGRAM/SYSTEM EFFECTIVENESS

This means establishing outcome goals that are directly tied to agency funding and memorialized in legislation for the following agencies: BOR, UConn, SDE, DOL, and DECD, and others as appropriate and to be determined. Until there is accountability in government and public higher education, the state will not have a workforce system that responds to the needs of businesses and state citizens.

- OWC should become a stand-alone entity that reports to the governor and is housed within OPM for administrative purposes only. The head of OWC, an individual with workforce development and policy expertise, should report directly to, and be appointed by, the governor. OWC should be provided with the staff and resources to fulfill its new responsibilities, with additional support provided by the state agencies involved.
  - The governor should provide an overall workforce vision for the state that
    - o raises the level of recognition and importance of workforce development;
    - o develops workforce system goals with guidance from OWC/CETC; and
    - o relies on OWC for data and analysis for decision making and accountability.
  - CETC should provide strategic guidance related to workforce issues, including a vision for targeting resources and for focusing OWC activities. Further, OWC should develop, in consultation with CETC, a process to provide businesses with information regarding all workforce-related programs. This information should be web-based, easily accessible, user friendly and regularly updated. The process should include a mechanism to provide businesses with an opportunity to receive alerts about updated and new programs.
  - A General Assembly Select Committee on Workforce should be created to receive and review data and metrics for monitoring and policymaking related to workforce alignment. The committee should be structured much like the General Assembly's Select Committee on Children and should include, but not be limited to, chairpersons and ranking members from the committees on education, human services, higher education and employment advancement, commerce, and labor.
  - When a new initiative is launched (for example, Connecticut's Innovation Ecosystem or Fast Five Program), OWC should be responsible for ensuring that all workforce-related issues are coordinated and that funds are leveraged to increase the efficient and effective use of public funds.
  - OWC should serve as the convener and facilitator of the various state partners involved in STEM to create collaborations that would make the state more competitive for federal funds. In addition, OWC should create a clearinghouse for all the STEM initiatives underway in the state, disseminate information and create awareness about existing and new programs in order to reach the maximum number of students possible.
2. Add representation from independent colleges and the University of Connecticut to the CETC board so that all entities involved in workforce development are involved in the development of strategies at the state level.
  3. Consider offering and co-locating comprehensive services (including Adult Education, among others) at the One-Stop Centers. This might entail co-locating all offices regionally or having staff work in multiple locations so they can more easily collaborate on initiatives and jointly compete for federal funding. This will enhance collaboration and result in fewer missed opportunities.

## ***DATA AND INFORMATION***

### **FINDINGS:**

There is no central authority that consolidates, analyzes, and synthesizes all workforce program data, labor market data, and economic development-related data. Also, it is critically important to go one step beyond analyzing the data by using the information to adapt programs, terminate ineffective programs, or implement new programs based on emerging trends or future needs.

Further, the state currently has no systematic method of collecting data to determine future business needs so that workforce programs could be developed to meet those future needs. Data projections rely on historical information to predict future needs as opposed to surveying employers about the future and using real-time labor information to prepare for future needs.

### **RECOMMENDATIONS:**

1. Although it is very difficult to predict the future and what occupations might exist years into the future, for now a hybrid method should be employed to understand in the short and medium term what occupations could arise or be on the decline. Such a method should incorporate the best data currently available for predicting future trends, including real-time job posting data and data from a newly created and administered quarterly employer survey that assesses current vacancy rates and future hiring plans. These two forward-looking data elements would be utilized, in addition to the current DOL occupational projections that use historical data, to anticipate future trends. Forecasting using these three data elements would enable the projections to provide a more robust picture into what is emerging for the future and also to identify if past trends mirror the current labor market picture. An adequately sized job vacancy survey could provide both industry and occupational vacancies that would allow policymakers to prescribe targeted economic development solutions and maximize the return of existing training resources. The survey would need to be conducted on a quarterly basis in order to provide timely, real-time and trend information. This type of survey not only helps job seekers understand where work is available and the types of occupations in demand, but it also helps employment and training services understand the current labor market and provides an indication of how well the labor market is doing.
2. The longitudinal data system must be supported and promoted by the state. All agencies and entities in the state that are part of the workforce system must provide their data and protocols for data use and sharing must be established. OWC should lead the effort in convening an interagency workgroup to determine the future sustainability of the longitudinal data system.
3. OWC should be responsible for creating a central repository for workforce programs that will: (1) provide information about workforce programs in the state and (2) inform about the quality of the programs for the purposes of statewide implementation (scale-up). Repository data and analysis should be publicly communicated and monitored so that successful programs can be evaluated for bringing them up to scale or determining sustainability efforts.

4. Enhance DOL's research capacity, since three-quarters or more of their funding is from the federal government, to produce more comprehensive data to inform the workforce system. The following should be incorporated into DOL's research: tracking of self-employment and regular analysis of demand and supply of workers.
5. Have OWC serve as the office that systematically assesses program performance and also analyzes the state's overall performance on key metrics and benchmarks for comparison with other states, the nation, and globally. Several benchmark and best practice states and/or countries should be identified based on an analysis of key factors for selection. Relationships should be established with selected benchmark states for periodic joint review and analysis of each state's progress. This would be included in the workforce system evaluation and review, as shown in Figure 7.1.
6. Higher education performance metrics should be tied to meeting the needs of business. This requires that higher education institutions and systems continuously monitor, through surveys, whether their programs and graduates are meeting the needs of business. Results should be used to assess performance and adapt and develop programs to meet the current and future needs of business.

## ***EDUCATION AND BUSINESS/INDUSTRY LINK***

### **FINDINGS:**

Although the state has made progress by consolidating its fragmented system of higher education, there is still opportunity to further improve coordination within the entire public education system. A prepared and educated workforce is the only way the state will be able to compete globally. This means that the state's universities and colleges are critical to the state's economic growth and the prosperity of its citizens. It is also recognized that higher education cannot help drive economic growth unless students' academic achievement is linked to the needs of the marketplace.

However, there is a longstanding tradition within public higher education institutions to view themselves as preparing an individual for future success as opposed to a particular career. Reorienting or expanding the missions of universities poses a major challenge for policymakers. Another challenge in responding to the needs of industry is addressing the time it takes to get new programs developed, approved and operational versus the immediate needs of business and industry.

Recognizing that the jobs of the future will continue to demand higher levels of education than those of the past, the National Governors Association has compiled best practices from pioneering states that have undertaken strategies to align postsecondary education with the state's economic goals.

States have taken the following steps to strengthen universities and colleges as agents of workforce preparation and sources of more opportunity, more economic growth, and increased competitive advantage:

1. *Set clear expectations for higher education's role in economic development;*
2. *Emphasize rigorous use of labor market data and other sources to define goals and priorities;*
3. *Encourage employers' input into higher education;*
4. *Require public higher education institutions to collect and publicly report impacts; and*
5. *Emphasize performance as an essential factor in funding.*<sup>1</sup>

#### **RECOMMENDATIONS:**

1. As recommended by the National Governors Association, strengthen universities and colleges as agents of workforce preparation and sources of more opportunity, economic growth, and increased competitive advantage. Therefore, create an education system (both public and private) that is accountable to the state's workforce system by creating metrics tied to performance evaluation and funding. Metrics for consideration could include, but not be limited to, the following: increasing the number of students graduating and increasing the pipeline of workers to meet future demand; shortening the time frame in which students earn a degree; and achieving and maintaining affordable education opportunities. The development of the longitudinal data system will help provide the information to inform this endeavor.
2. Education and training initiatives, through OWC's leadership and in coordination with education and training institutions (as noted in the Organization Structure and Leadership section), should be integrated into the key economic growth strategic initiatives, such as:
  - o Business sectors identified by the DECD as key to Connecticut's future should each be analyzed regarding key worker skills required to provide guidance to education and training initiatives.
  - o The Fast Five companies should each be assisted in clarifying the skills required for successful workers (at all levels) in their company and business area, which will provide additional guidance to education and training initiatives.
  - o State endeavors such as the Innovation Ecosystem and the planned UConn Technology Park should be tasked with providing continuous guidance as to the workforce skills required for workers who will eventually fill the jobs in the companies and technologies that will emanate from the growth of the companies utilizing these resources.
3. Workforce development partnerships and collaborations that involve the private and public sectors, including philanthropic funders, can be utilized for meeting workforce needs to collaborate with education and training providers. One example that should be considered is creating a collaborative initiative between the technical high school system, community college system, and employers so that equipment and digital simulations can be shared and students can benefit from learning on cutting-edge, technically relevant machinery, tools and other equipment and simulations to reduce, wherever possible, the inefficiencies that exist by having expensive training equipment at multiple facilities.

---

1 NGA Center for Best Practices, "Degrees For What Jobs? Raising Expectations for Universities and Colleges in a Global Economy." March 2011.

4. Create a visible marketing campaign to make students, residents and workers aware of the commitment to excellence in education and to attract talent to Connecticut with a theme of "Come work and grow in Connecticut. Together we can change the world."
5. Support the elimination of the program approval requirement for all independent colleges being approved by the State Board of Education. The program approval process should be based upon the individual institution's governance process. This change will help streamline the process for colleges and universities to respond to market and employer needs while reflecting the recent reorganization in state government.
6. The SDE and State Board of Education should encourage and provide guidance to school districts to infuse existing K-12 curricula with cross-cultural experiences and learning opportunities to better prepare students to participate in a global workforce.

### ***WHERE CAN CONNECTICUT ACHIEVE THE GREATEST RETURN ON TAXPAYER INVESTMENT?***

One of the goals of this study is to provide guidance to the General Assembly regarding methods for evaluating workforce system-related programs for the purpose of determining return on the investment of public funds in such programs. However, there is very little data that assesses program outcomes and looks at the programmatic effects longitudinally. Therefore, this section of the report takes a broader look, examining which programs nationally have been identified as having the greatest return on public investment in the short, medium, and long term.

#### **FINDINGS – SHORT-TERM:**

According to the latest Census figures, more than one-third of Connecticut adults have only a high school degree or less and among minorities in Connecticut, that figure is about 55%. Therefore, it is important to recognize that many individuals whose skills and education need to be upgraded to compete are already adults and in the labor force. It is the workforce development system and their employers that are key resources for these people.

Short-term programs are effective for those people who need skill upgrades in order to obtain a job (if unemployed), to keep an existing job (if an incumbent worker), or to change a job (if a dislocated worker), as well as for meeting current business needs. The programs need flexible funding sources that can supply resources as needs arise. Since many businesses, especially small ones (fewer than 100 employees), generally cannot project long-term future employee needs, it is critical to be able to respond to employers as quickly as possible so that they have the workers needed to be productive and competitive. During economic recessions, these needs tend to become greater as more layoffs occur and people are out of work for longer periods of time, where their skills can tend to become obsolete.

#### **RECOMMENDATIONS – SHORT TERM:**

1. Pending further evaluation of program outcomes, the early results for the Step-Up program present an opportunity for the state to scale a program beyond the pilot period and sustain it to obtain measurable results.

2. The state should advocate for more flexible federal guidelines for federally funded programs so that appropriate services can be offered with a more “client-centric” approach customized for the needs of individual states and their businesses and workers. State agencies should be aware where federal waivers can be granted and seek out more efficient ways to use the funding. This issue is worthy of consideration and advocacy by the National Governors Association. However, at the state level this also means having up-to-date data and information so that programs and policies can be adapted to the changing demands of the workforce and employers, and so that evaluation metrics can be utilized to determine program outcomes and success.

### **FINDINGS – MEDIUM TERM:**

In the medium term, certificate programs and apprenticeship programs have proved to be effective for providing the skills necessary for gaining employment. The postsecondary certificate serves as a cost-effective tool for increasing postsecondary educational attainment and gainful employment. Two out of every three workers who have a certificate and a college degree earned the certificate first, indicating that the certificate serves as a stepping stone to further educational attainment.

However, the Education Commission on the States found that postsecondary institutions in Connecticut produce far fewer certificates and far more bachelor’s degrees than the national rates for those credential types.<sup>2</sup> Yet, by 2020, 65% of all jobs in the United States will require postsecondary education and training – education beyond high school.<sup>3</sup> A real gap that needs to be addressed exists between the degrees and credentials conferred in the state and the needs of employers. And certificates provide a cost-effective mechanism for students to reach gainful employment; particularly minority students and those from low-income households.

Apprenticeship programs are an effective way to create pathways for students to become employed. A recent study by Mathematica Policy Research estimated that the social benefits of the Registered Apprenticeship program, administered by the Employment and Training Administration’s Office of Apprenticeship at the US Department of Labor, exceed the social costs by more than \$49,000 and over an entire career, and an apprentice who completes the program earns almost \$250K more than similar non-participants.<sup>4</sup> Further it is a way for companies to ensure they have a skilled and trained workforce. To create an effective, expanded statewide program, the current structure of the program should be examined and modified as necessary to assure growth and success.

### **RECOMMENDATION – MEDIUM TERM:**

As an initial step, a framework should be developed for how an apprenticeship program could be organized in the state. This entails creating a workgroup of businesses – small, medium, and large manufacturer – to design the necessary components of an apprenticeship program that could have universal appeal to many businesses. For example,

---

2 The Education Commission of the States presentation at February 7, 2012 CASE committee meeting

3 Georgetown University Center on Education and the Workforce, “Projects of education demand for the future workforce,” April 20, 2012 presentation to the CASE committee.

4 Reed, Yung-Hsu Liu, et al, “An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States,” Mathematica Policy Research, July 25, 2012.

the business participants would work out the number of hours that would be spent in on the job training versus in the classroom setting. Once the businesses develop an appropriate framework, a meeting of state agencies – DOL, technical high schools, DECD, BOR – could determine the appropriate implementation of the framework and funding. This approach is fundamentally different than the way programs are currently developed and operated.

Currently the state has dedicated funding from the federal Workforce Investment Act (WIA) for apprenticeships and decides how to distribute the resources. This results in the funding driving program development as opposed to designing programs to meet the needs of business and then determining where the funding could come from. This recommended approach should inventory what is currently being offered and determine how to consolidate programs into a statewide effort. This new model should extend beyond the traditional trades that are typically involved in an apprenticeship program and also include internship opportunities, certificate programs, and other appropriate creative solutions to hands-on learning.

#### **FINDINGS – LONG TERM:**

The longer society waits to intervene in the life cycle of a disadvantaged child, the more costly it will be to remediate and the less likely to achieve results. Investments focused on birth to age 5 produce a higher per-dollar return than K-12 schooling and later job training. Further they reduce the need for special education, and cut juvenile delinquency, teenage pregnancy and dropout rates. Several longitudinal evaluations all reach essentially the same conclusion: the return on early-childhood-development programs that focus on at-risk families far exceed the return on other projects economic development funded initiatives.

Currently the delivery system for early childhood programs is fragmented and driven by funding streams, which leads to an inefficient use of resources. In 2011, P.A. 11-181, "An Act Concerning Early Childhood Education and the Establishment of a Coordinated System of Early Care and Education and Child Development," was adopted. The act made some organizational changes and also appointed a planning director within the Office of Policy and Management to develop a plan for the system that consolidates existing early childhood education and child care programs and services for children from birth to age 8 into a coordinated system. While coordination and consolidation is the necessary next step for the state, there also needs to be an effort to ensure all traditionally underrepresented children have access to high-quality birth to age 5 education.

#### **RECOMMENDATION – LONG TERM:**

At a minimum, the state should create a scholarship program so that all historically underrepresented children in the state can attend a high-quality preschool program. This is a market-based approach where programs are not funded but rather parents receive scholarship money to choose the best high-quality program for their family. Good early childhood programs generate public sector gains through reduced expenditures and increased revenues by having more citizens contributing taxes as opposed to receiving public benefits. To that end, the state should consider Social Impact Bonds as a means for paying for universal early intervention and preschool for at-risk children.<sup>5</sup>

---

<sup>5</sup> [http://www.readynation.org/uploads/db\\_files/Kauffman-ReadyNation\\_PKSE\\_Report\\_12041922.pdf](http://www.readynation.org/uploads/db_files/Kauffman-ReadyNation_PKSE_Report_12041922.pdf)

## CONCLUDING REMARKS

Evaluating the effectiveness of workforce programs and the workforce system requires ongoing analysis of data and information and outcomes with the principal goal of assuring that Connecticut's workforce is prepared to meet the needs of business and industry today and in the future. This requires involvement of many state agencies and others, many of which do not include workforce as their central mission.

The development of an effective workforce system requires system-wide leadership and expertise to conduct comprehensive synthesis analysis for the purpose of continually adapting programs and initiatives and allocating funding to those priorities that will have the greatest impact in meeting the needs of business and industry and the state's residents to maintain a vibrant state economy.

Connecticut should benchmark its workforce programs and initiatives with other similar states/regions on an ongoing basis both to learn from other states and to ensure that Connecticut remains competitive. Also, best practices from other states, regions and countries should be continually identified for consideration for piloting or implementation in Connecticut. To accomplish this, it is important to have effective and sustainable leadership in place with the authority to guide and cause the communication, collaboration, and cooperation among and with many state agencies and others with workforce-related responsibilities.

Results and progress should be reported quarterly to CETC, the governor and the General Assembly. The General Assembly should form a Select Committee on Workforce comprising the leadership of the committees of cognizance for workforce-related issues. This would provide a mechanism by which all key committees could be informed about the status of workforce-related programs and initiatives, and would help to assure that both the executive and legislative branches of government maintain a keen awareness of the importance of workforce development to the economic well-being of the state and its citizens.