Report of Selected State Practices for Aligning Educational Supply with Occupational Demand

Prepared by
Office of the Commissioner of Higher Education
State of Utah

Based on
State Best Practices for Aligning Educational Supply with Occupational Demand, a 2012 Draft Study by Barry E. Stern, Ph.D.

May 23, 2013

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Introduction and Background

The Office of the Commissioner of Higher Education recently commissioned Barry E. Stern, Ph.D., to conduct a study of states that demonstrated best practice alignment between labor market data and educational supply. The study's objective centered on using best practice information to inform a set of recommendations for Utah. The study was conducted as the third phase of the Jobs for Utah's Future project launched by former Utah Commissioner of Higher Education, Dr. William Sederburg.

Phase One of this project identified policy questions that an integrated education and workforce data system might address. Phase Two consisted of a symposium held at Salt Lake Community College on May 9, 2012, that convened workforce, political, and educational leaders and thinkers to discuss how Utah might build a cross-agency data system and analytic framework to improve the crosswalk between workforce needs and educational supply. Several national and state experts contributed to this symposium.

In determining the best practice states for this study, Dr. Stern considered three national initiatives that assessed data quality and the use of data to measure, explain, and improve educational outcomes. These initiatives included: 1) *Leaders and Laggers*, a biannual report card published by the United States Chamber of Commerce; 2) the Data Quality Campaign, a nonprofit organization composed of nearly 100 organizations dedicated to the success of state longitudinal data systems; and 3) Workforce Data Quality Initiative grants funded through the United States Department of Labor.

Through this review process, Dr. Stern noted eleven states that in his assessment demonstrated sufficient evidence to warrant inclusion as best practice states for purposes of this study. These states included Connecticut, Florida, Kentucky, Minnesota, Ohio, North Carolina, North Dakota, Tennessee, Texas, Virginia, and Washington.

Dr. Stern administered a self-developed telephone and written-response survey to 31 representatives from these eleven states who appeared to be state leaders relative to data and workforce alignment issues. These individuals were cited by Dr. Stern as correspondents and are listed in Appendix A. Additionally, Dr. Stern received contributions from several national experts on labor market information and educational data systems. These individuals are also listed in Appendix A. Dr. Stern developed a detailed draft report based on responses received from his study that included a set of recommendations. This report from the Office of the Commissioner of Higher Education is based on Dr. Stern's study.

OCHE Staff Analysis

In an effort to streamline the recommendations and the data provided in Dr. Stern's report, staff from the Office of the Commissioner of Higher Education (OCHE) analyzed the data in two ways: 1) Data Project Type; and 2) Data Management and Dissemination. The Data Project Type analysis examined state input reported by Dr. Stern and then grouped the input into project type categories. These project type categories demonstrate state-level data initiatives and uses with regard to workforce development practice. Through this analysis seven main project type categories were identified: Data Initiatives; Outcomes Reporting; Outcomes Funding; Strategic Planning; Alignment; Job Postings, and Other. These seven categories are listed in the table below. The states cited next to each category were specifically associated with the item in Dr. Stern's report.

TABLE 1: Alignment of Best Practice States According to Data Project Type Categories												
Data Project Type Categories		Connecticut	Florida	Kentucky	Minnesota	North Carolina	North Dakota	Ohio	Tennessee	Texas	Virginia	Washington
Data Initiatives	State Longitudinal Data System	x	x	x		x	x	x			x	x
	Longitudinal Labor Data	x		x	x		x		x			x
	Data-Quality Initiatives						x				x	x
Outcomes Reporting	Outcomes Reporting System	x	x	x	x	x	x		x	x	x	x
Outcomes Funding	Outcomes Based Funding							x	x			x
Strategic Planning	State Strategic Plan		x	x							x	
Alignment	Alignment of Workforce Needs with Workforce Development Skills Programs									x		x
Job Postings	Job Postings Linkage System				x			x				
Other	Stackable Credentials				x							
	Stakeholder Collaboration										x	

The second analysis looked at how best practice states manage and disseminate data along four key categories. These categories represent points of interest to state leaders in Utah at the time Dr. Stern was commissioned to conduct the best practices study. These categories are: State Data Operational Structure; Use of Data in Industry; Data Gaps; and Access to Data. It should be noted that the data analyzed between Project Type and Data Management and Dissemination are not necessarily mutually exclusive. These two levels of analysis provide a multi-dimensional approach to understanding the scope and importance of data and its use to align labor market needs with educational supply. The states cited next to each category were noted to be associated with the item in Dr. Stern's report as indicated in the table below.

TABLE 2: Alignment of Best Practice States According to Data Management and Dissemination Categories												
Data Management and Dissemination Categories		Connecticut	Florida	Kentucky	Minnesota	North Carolina	North Dakota	Ohio	Tennessee	Texas	Virginia	Washington
State Data Operational Structure	Governance	x		x		x		x			x	
	Database structure		x			x	x	x				x
	Data Access Policy										x	
Use of Data	Industry Partnerships			x	x							
Data Gaps	Unemployment Insurance Information									x	x	
	Regional / Inter-state Data											x
	Crosswalk Systems								x			x
	Real-time Labor Market Information			x	x			x		x		
Access to Data	Policy Makers		x					x	x			
	Students / Job Seekers	x	x		x	x						x

It should be noted that if a best practice state is not associated with a particular item referenced above it does not infer that the state is not engaged in that item. It simply means that evidence of association was not noted by OCHE staff, or that it was not cited by a best practice state or otherwise noted by the consultant. Further, if an item does not have many states associated with it, an inference should not be made that the item is of lesser importance than items associated with multiple states. The point of this analysis was to identify common themes and elements that were cited as important by state respondents who described the factors they understood to have impact on alignment between labor market data and educational supply.

Appendix B provides summary comments for each state associated with each item in the Data Project Type analysis. Appendix C provides summary comments for each state associated with each item in the Data Management and Dissemination analysis.

Results

The data contained in Dr. Stern's report show a clear pattern of best practice states that have created integrated education and labor market data systems that are used to:

1. Disseminate workforce and labor market information, reports, and recommendations to stakeholder groups and to state and institutional leadership to guide and inform policy conversations and state and local workforce development strategy
2. Align workforce development programs with current needs

3. Provide evidence-based results that demonstrate the effect of educational and workforce development programs on earnings, employment, and other key economic and occupational metrics
4. Strengthen key partnerships between educational institutions/systems and workforce development agencies
5. Inform key stakeholder groups of results for use with state initiatives to provide incentive funding to educational providers
6. Inform users of educational and workforce systems of key metrics, data, and information relative to career opportunities and labor markets

Few, if any, of these benefits would happen effectively without a system of integrated education and labor market data and the effective use of that data to enhance education and workforce development efforts.

Recommendations

Considering recommendations made by Dr. Stern, information obtained from the OCHE staff analysis of Dr. Stern's description of the eleven best practice states (Tables 1 and 2 and Appendices B and C), and balancing that data with current state needs, the OCHE makes the following recommendations:

1. Seek funding to support gathering and reporting longitudinal data that links secondary and post-secondary institutions to workforce data to obtain the following metrics:
    a. Credential attainment rates
    b. Credential completion to workforce rates
    c. Non-completion to workforce rates
    d. Wage data of completers and non-completers
    e. Rate of re-enrollment at post-secondary institutions by completers and non-completers

    These metrics will enable the state to assess program return on investment, comparability of program efficacy on wage potential, predictive analytics that inform student guidance and counseling, reporting of required data and outcomes for federal and foundation grants, and comparative data for student selection of majors. All of these benefits are at risk if continued efforts to support longitude data ceases.

2. Engage a systems approach to fill data gaps by collecting employment data on students who complete secondary, post-secondary, and workforce development programs in Utah but find employment outside the state.

3. Utilizing information from DWS, information in the Utah data warehouse, and/or private data suppliers, collaborate in sharing data among state education, workforce, and economic development agencies to assess current and emerging workforce skills gaps; use this data to inform curriculum enhancements in existing programs and new program development.

4. Seek legislative funding for a state-wide degree completion initiative that provides incentive and support for post-secondary institutions to develop and/or realign certificates, associate degrees, and baccalaureate degrees that meet the following criteria:
    a. current and emerging workforce needs
    b. recognized and supported by industry
    c. targeted high-demand areas as informed by state and/or regional labor market data
    d. begin in high school with select courses offered through concurrent enrollment
    e. stack to further educational opportunities
    f. implemented utilizing state and national program of study guidelines

5. Continue mission-based funding initiatives to provide institutions the resources needed to build innovative programs and delivery methods that serve existing and emerging regional and/or state-wide workforce development needs.

6. Assemble a task force of representatives from DWS, USHE, USOE, GOED, and other appropriate stakeholders to determine where a state longitudinal data center should be housed and to make legislative recommendations for funding.

APPENDIX A
National Experts and State Correspondents Cited by Dr. Barry Stern

National Experts

- Dixie Sommers, *Assistant Commissioner for Occupational Statistics and Employment Projections*, Bureau of Labor Statistics
- Marc Anderberg, *Utah Expert Panel Member and Specialist in Real-Time LMI and Projections,* DWA Research Institute
- Dr. Tony Carnevale, *Director*, Center for Education and the Workforce, Georgetown University
- Dr. Nicole Smith, Center for Education and the Workforce, Georgetown University
- Dr. Jeff Strohl, Center for Education and the Workforce, Georgetown University
- Dr. Andrew Reamer, *Research Professor*, George Washington Institute of Public Policy, George Washington University
- Jay Pfeiffer, *Director*, State Longitudinal Data Systems, MPR Associates
- Dr. Brian Prescott, *Director*, Policy Research, Western Interstate Commission for Higher Education (WICHE)
- Dr. Carol G. Puryear, *Associate Vice Chancellor for Instruction and Special Projects*, Tennessee Technology Centers, Tennessee Board of Regents
- Dr. Louis Jacobson, *Independent researcher*, formerly of Center for Naval Analysis
- Dr. David Stevens, *Executive Director,* The Jacob France Institute in the Merrick School of Business, University of Baltimore
- Dr. Pradeep Kotamraju, *Deputy Director*, National Research Center for Career and Technical Education, University of Louisville
- Aimee Guidera, *Executive Director*, Data Quality Campaign
- Mark Schneider, *Vice President*, American Institutes for Research
- Karen Gilbreath, *Manager,* Research and Development, Georgia Career Information Center
- Steve Rosenow, *Manager*, National Crosswalk Service Center
- Dr. Kenneth Poole, Center for Regional Competitiveness, Virginia
- John Dorrer, *Program Director for LMI*, Jobs for the Future
- Bill Grinstein, *Former Chair*, Washington Higher Education Coordinating Board
- Robert Sherer, *Manufacturing Talent Director*, Michigan Workforce Development Agency

State Correspondents

Connecticut
- Dr. Braden Hosch, *Director of Policy and Research*, Connecticut State Universities and Colleges
- Jan Kiehne, *Senior Consultant*, Policy and Research, Connecticut State Universities and Colleges

Florida
- Randall W. Hanna, *Chancellor*, Division of Florida Colleges
- Scott Parke, *Vice Chancellor for Research*, Florida College System
- John McNeeley, *State College Liaison*, Division of Career and Adult Education, Florida Department of Education
- R.E. LeMon, *Associate Vice Chancellor,* Academic and Student Affairs, Florida Board of Governors

Kentucky
- Charles McGrew, *Executive Director*, Kentucky P-20 Data Collaborative
- Lee Nimocks, *Chief of Staff*, Kentucky Council of Post-Secondary Education
- Dr. Heidi Hiemstra, *Vice President*, Research and Planning, Kentucky Council on Postsecondary Education
- Jonathan Gagliardi, *Senior Associate Research*
- Christina E. Whitfield, *Director*, Research and Policy Analysis, Kentucky Community and Technical College System

Minnesota

- Craig Schoenecker, *Director*, Research Planning and Effectiveness, Minnesota State Colleges and Universities
- Steve Hine, *Director*, Labor Market Information, Minnesota Department of Employment and Economic Development

Ohio

- Brett Visger, *Deputy Chancellor*, Institutional Collaboration, Ohio Board of Regents
- Dr. Joshua Hawley, *Director*, Ohio Education Research Center (OERC), *Associate Professor*, Ohio State University
- Dr. Keith Ewald, *Project Manager*, Ohio Department. of Job and Family Services

North Carolina

- Dr. Saundra Williams, *Senior Vice President*, Information Technology and Workforce Development, North Carolina Community College System
- Lou Fabrizio, *Director of Data*, Research and Federal Policy, North Carolina Department of Public Instruction
- Karl Pond, *CEDARS Program Manager*, North Carolina Department of Public Instruction (K-12 data but not post-sec.)

North Dakota

- Michelle Olsen, *Director of FINDET*, Office of CIO, North Dakota University System

Tennessee

- David L. Wright, *Associate Executive Director*, Policy, Planning and Research, Tennessee Higher Education Commission
- Mike Krause, *Director of Academic Affairs*, Tennessee Higher Education Commission

Texas

- Christopher T. King, Ph.D., *Director*, Senior Research Scientist and Lecturer, Ray Marshall Center, University of Texas at Austin
- Rich Froeschle, *Labor Market and Career Information Director*, Texas Workforce Commission
- Michael Bettersworth, *Associate Vice Chancellor For Technology Advancement*, Texas State Technical College System

Virginia

- Tod Massa, *Policy Research and Data Warehousing Director*, State Council for Higher Education in Virginia
- Wendy Kang, Director of Research and Evaluation, Virginia Community College System

Washington

- Randy Spaulding, Ph.D., *Director of Academic Affairs and Policy*, State of Washington Higher Education Coordinating Board
- John Lederer, Ed.D., *Director*, Research and Strategic Planning, Seattle Community Colleges
- Bryan Wilson, Ph.D., *Deputy Director*, Workforce Training and Education Coordinating Board
- Melissa Beard, *Senior Forecast Coordinator*, Washington Education Research and Data Center

APPENDIX B
OCHE Staff Analysis: Data Project Types

The Office of the Commissioner of Higher Education staff examined state input reported by Dr. Barry Stern and then grouped the input into project type categories. These project type categories demonstrate state-level data initiatives and uses. Seven project type categories emerged from this analysis as identified below. A summary of comments from Dr. Stern's report provides a description of how each state that is associated with a category relates to the project type.

- Data Initiatives
    - State longitudinal data systems
    - Longitudinal labor data
    - State data quality initiatives
- Outcomes Reporting System
- Outcomes-based funding
- State Strategic Plan
- Alignment of workforce needs with workforce development skills programs
- Job postings linkage system
- Other
    - Stackable credentials
    - Stakeholder collaboration

Data Initiatives

State Longitudinal Data Systems

Connecticut
Developing the State Longitudinal Data System
a. <u>Federated data system</u> – participating agencies retain ownership of data while a central entity matches data across agencies.
b. <u>Building blocks</u> – Linkage of K-12, Department of Labor, and higher education data so researches can examine which programs are most effective in preparing for success beyond high school.

Florida
Florida Education and Training Placement Information Program
c. Provides follow-up data on former students and program participants who have completed a program.
d. Links data from secondary education, post-secondary education, and a variety of state agencies
e. Data warehouse – secondary and post-secondary data resides in one department.
f. Use of information – data provides accountability and outcome information for consumer use and career information for students and counselors. Includes employment and education outcome, alternative types and sequences of education for work force entry, demographics by program, earnings, use of public assistance funds by program participants.

Quarterly data provide consistent set of core performance measures for all programs in the state.

Kentucky
P-20 Data Collaborative
This collaborative is a joint effort between the Kentucky Department of Education, the council on Post-Secondary Education, the Education Professional Standards Board, and the Kentucky Education and Workforce Development Cabinet. The P-20 collaborative complements, but does not necessarily replace agency data systems.

The collaborative provides:
- Demographics
- Grade level and GPA data for secondary and post-secondary
- Completion data
- Background characteristics of students
- Assessment results for a variety of state and national exams
- Statewide employment and earnings data

North Carolina
The P-20W Council and the Federated Data System
The P-20W SLDS project takes the state's Common Follow-up System model and delivers a more robust, responsive, on-demand data system that is better able to answer researchers' and policymakers' questions. The statewide P-20W longitudinal data system (preschool through graduate school and the workplace) is under development.

Unique identifier (UID). NC's proposed system would include the universal adoption of the UID developed by the state education agency's PK-12 CEDARS (Common Education Data Analysis and Reporting) System throughout post-secondary education in North Carolina. Legislation also requires the P-20W Council to build a bridge to the workforce data from the Division of Employment Security by matching the UID to the social security number.

Data stewards should clearly define agency expectations and policy questions before building data system. Expectations of each agency partner, identification of common policy questions across agencies, and common data elements are crucial factors that should be built into a state data system. Once common elements are known, system priorities and common data definitions can be established more quickly and at less cost.

North Dakota
State Longitudinal Data System
North Dakota plans to evolve the current data system using new technology to create a more robust workforce and educational longitudinal system. Additionally, it plans to create business intelligence software to automatically produce these mandated reports as well as trend data to permit policy analysis and research. The North Dakota University System plans to produce its legislatively mandated follow-up report through the state's longitudinal data system .

Ohio
State Longitudinal Data System and Workforce Data Quality Initiative
Ohio's SLDS system was among first funded in 2006. It is not yet able to link data via a common state student identifier. The system is nearly real time and helps to link P-12 data across state agencies.

The state's workforce data quality initiative links employment and higher education data from the Ohio Department of Job and Family Services and the Ohio Board of Regents. Data will be centrally warehoused at Ohio State University. SLDS system is managed by the Ohio State Department of Education. Ohio is working to provide real-time job vacancy data that will track current skill requirements in various industries and jobs.

Virginia
Virginia Longitudinal Data System
Virginia has a federated data management structure and is working on developing a web-based portal, data management control systems, and a mechanism for data transfer with postsecondary institutions.

Processes to Assure Individual Privacy and Confidentiality of Data
In order to protect confidentiality and accommodate many small programs in the Commonwealth and the limits of available data, upcoming reports will display program-level data only under fairly stringent conditions, including using rolling aggregate numbers and minimum sample sizes.

Washington
State Longitudinal Data System
Washington has been linking educational data to labor data, but the longitudinal system will systematize the process and assure better integrated policy decisions. Four recent reports from the state's Education Research and Data Center indicate the kinds of studies that can be performed with longitudinal data:
- Postsecondary Education Enrollment Patterns (funded by Washington's ARRA Statewide Longitudinal Data Systems (SLDS) Grant) – June 2012
- Enrollment in Pre-College-Level Coursework, Washington State High School Graduates, 2008-09 – November 2011
- Workforce Participation, Washington State High School Graduates, 2008-09 – April 2011
- Who Leaves Teaching and Where Do They Go? (funded by Washington's ARRA Statewide Longitudinal Data Systems (SLDS) Grant) – January 2011

Longitudinal Labor Data

Connecticut
Provides Annual Report that Shows
    a. Employment results and graduates nine months following graduation
    b. Wage information of graduates by program
    c. Percent of graduates working in industry sectors
    d. Employment by demographic factors

Potential exists to track longitudinally average wage growth of graduates by industry sector and to track wage growth companions by completers and non-completers.

Kentucky
Higher Education Metrics to Guide Policy and Funding Decisions
Uses a Kentucky-developed stronger by degree scorecard that reports progress on goals for 2014 among approximately 25 specific measures that are distributed among:
- College readiness
- Student success
- Research
- Economic and community development
- Efficiency and innovation

Kentucky is undecided whether or not it will implement a performance-based funding initiative.
Key metrics include:
- Wage index
- High wage/high demand completions
- Licensure/certification passports

Skill audits with real time labor market information
Kentucky is one of several states participating in a real-time labor market information (LMI) project funded by the Lumina Foundation. The project seeks to determine if; 1) LMI data on current job postings can help institutions make better investments in career preparation programs; and 2) develop a replicable dynamic skill audit process.

Minnesota
Workforce Assessment Initiative
The Initiative is a data gathering initiative from 44 meetings with employers. Gathered data relating to:
- Workforce supply and demand
- Workforce skills

North Dakota
Personal Identifier and Driver's License Linkage
The state plans to link the interagency data with driver license data from the Department of Transportation (DOT). Linking to driver license data by Social Security Number (SSN) will allow the capture of updated address and date of birth information for Job Service records already containing name and SSN data. This will be used to track students entering and leaving the longitudinal data system through numerous feeder systems and applications.

Tennessee
Labor Market Supply and Demand Study with Customized Crosswalk
In partnership with higher education, the Center for Business and Economic Research (CBER) at the University of Tennessee, Knoxville developed a Labor Market Supply and Demand Study. The study provides supply and demand projections by discipline and degree level. The report assessed demand for graduates from certain degree programs at certain levels and has been used for program alignment and development.

Washington
WICHE Multi-State Longitudinal Exchange
Many graduates work or enroll in colleges in neighboring states. The Western Interstate Commission for Higher Education (WICHE) is working with four Western states (Washington, Oregon, Idaho, and Hawaii) to address this issue with its Multistate Longitudinal Data Exchange project to pilot a data exchange among several states with WICHE coordinating efforts to develop the necessary architecture for the exchange of data, effectively govern the exchange, produce standard reports, and ensure the protection of privacy.

State Data Quality Initiatives

North Dakota
Workforce Data Quality Initiative (WDQI)
The WDQI grant will provide an operational data warehouse to link individual records from other programs in the educational and workforce longitudinal data system. North Dakota will undertake research projects regarding the employability of people without post-secondary experience as well as a supply/demand analysis of unemployed workers to demonstrate how longitudinal data can be used to improve workforce and training programs.

Virginia
Workforce Data Quality Initiative
The federal Title I Workforce Investment Act funds for Virginia go through the Virginia Community College System's Workforce Development Services division. This division coordinates system-wide functions for the state's twenty-three community colleges.

Washington
Washington Data Quality Initiative (WDQI)
In 2012 Washington received a $1 million grant from the U.S. Department of Labor to develop the state's workforce longitudinal data system within the state P-20/Workforce (P-20W) system. Unemployment insurance wage record data linkages with longitudinal education data are partially in place. The state intends to achieve complete connections between all workforce and all education data pertinent to state economic performance and educational advancement.

To link records for one individual across many education sources plus employment, each of the identifiers associated with an individual (SSN, college student ID, K-12 student ID) is linked to a P20 ID created by the state's Education Research and Data Center for internal use within the P-20W data system.

Outcomes Reporting System

Connecticut
Linkage to College Navigator of the National Center for Educational Statistics for Public and Private Institutions
This linkage lists outcome descriptors for each institution including retention of first year students and number and type of completers. Information is available on-line to consumers.

Florida
K-12 Success Measures Website
Provides the public with information regarding statewide assessment programs.

Florida University Planning System and Performance Indicators
The State University System of Florida has developed three tools that aid in guiding the System's future:
- Board of Governors' Strategic Plan
- An Annual Accountability Report
- Yearly institutional work plans

Kentucky
Higher Education Metrics to Guide Policy and Funding Decisions
Like most states Kentucky desires increased educational attainment and improved workforce outcomes for graduates. Emphases on more college graduates were codified in 1997 through the Postsecondary Education Improvement Act. The focus of this act is not just education for education's sake, but the linkages between a more highly educated citizenry, economic prosperity, and better lives. To track progress, the state introduced accountability reports, the latest being the new annual report, Stronger by Degrees: A Strategic Agenda for Kentucky Postsecondary and Adult Education, 2011-2015. The Stronger by Degrees scorecard reports progress on some 25 specific measures distributed among four categories: college readiness, student success, research, economic and community development, and efficiency and innovation.

Minnesota
The Minnesota Measures System and Report
Data published annually on effectiveness of post-secondary education. The report is divided into three categories:
- Preparing for and entering college
- During college
- Outcome of college

North Carolina
Common Follow-up System
Since 1992, North Carolina's education and workforce partners have had a system for tracking college graduates into the workforce. Called the Common Follow-up System (CFS), it contains information on over eight million unique individuals from 11 different participating entities. The system provides employment and earnings information of completers.

North Dakota
Annual Accountability Measures Report
Each year the North Dakota University System (NDUS) makes a report on progress in achieving goals as required by North Dakota Century Code 15-10-14.2. Several agencies are involved in collecting and analyzing outcomes and financial data, including the seven-agency consortium FINDET which provides information regarding the status of higher education graduates and program completers. In addition to traditional college and university students, the report contains accountability information for participants in federally funded employment and training programs including:
- Career-technical education programs under the Carl Perkins Act.
- Adult Education programs of the Department of Public Instruction.

- Job Service programs funded by the Workforce Investment Act.
- Vocational Rehabilitation and TANF training programs administered by the Department of Human Services

FINDET follow-up information is rolled into the annual Accountability Measures Report that includes the NDUS Follow-up Report findings on labor market outcomes and performance in areas such as stakeholder satisfaction, licensure pass rates, enrollment numbers and trends, and credit hours earned and degrees awarded. Additionally, various kinds of higher education financial information are reported such as tuition and fees, student debt loads, research expenditures, state General Fund appropriations and net tuition revenues, and state and student funding per degree and certificate awarded.

Tennessee
Outcomes that Support Economic and Workforce Development
CBER's demand-supply study affords rationale for inclusion measures in higher education funding formula including increases in the supply of program completers in high-demand fields, regionally relevant research, and community college training-related job placements.

Scorecard and Progress Report
Tennessee law requires an annual report on progress toward reaching a goal to increase the number of degrees awarded so that undergraduate degree production (associate's and bachelor's degrees) grows by 26,000 by 2015. The score card also identifies metrics to monitor effectiveness in the strategies for student success, efficiency, and quality, as well as other process milestones.

Current Challenges in Developing a Workable Outcomes-Based Funding Formula

- <u>Non-Degree Seeking Students</u>. Many students enroll to improve skills or broaden perspectives without seeking a credential. How to accommodate this perspective into the weighting formula remains a challenge.
- <u>Non-political Data-Sharing Culture</u>. Tennessee has benefited from having the interagency data integration occur outside of political influence.
- <u>Degree Efficiency</u>. Tennessee's higher education authority is not yet able to determine the cost per major in the state's colleges and universities. Such information is essential in order to recommend differential tuition for expensive programs or to alleviate skill shortages in high-demand fields.

Texas
Higher Education Reports on Employment and Further Education Outcomes of Program Completers and Leavers
The Higher Education Coordinating Board links unemployment insurance records and completion data and posts the results on their website such that users can generate outcome reports for each public university and community college, as well as some private and out-of-state colleges. The information provides detail on employment outcomes (employment rate and quarterly earnings) for all graduates and exiters/leavers of the institution as well as for graduates and exiters of particular programs .

Virginia
Higher Education Metrics of Economic Opportunity
Virginia has recently instituted a strong legislative framework that mandates economic alignment reporting. Public and private nonprofit institutions of higher education must publish data on the economic condition of graduates at 18 months and five years after the graduation. The State Council of Higher Education for Virginia is directed to publish this data annually on its website.

Washington
Biennial Report for Forecasts
Washington law requires the education and workforce agencies to jointly assess "the number of forecasted net job openings at each level of higher education and training, and the number of credentials needed to match the forecast of net job openings" every two years. To supplement the 2011 biennial report, the Higher Education Coordinating Board (HECB) published its first-ever Public University Baccalaureate Follow-up Study to assess the economic outcomes for baccalaureate-level graduates.

Two additional employer studies sample private and public Washington employers. The Workforce Board survey asks employers to identify skill needs and available in-house training. The twice-a-year one-page Job Vacancy Survey of the Employment Security Department counts vacant positions by industry, occupation, geographical area (12 workforce development regions) and required level of educational attainment. These surveys along with the biennial report have surfaced skill shortages in particular technical fields, yet they come out differently on the amount of education needed for jobs.

Common Performance Measures for Workforce Training Programs
Washington's strategic plan, High Skills High Wages 2008-2018, calls for a consistent set of measures to assess career and workforce development performance. Mandatory federal performance measures are different for each program. Washington's Workforce Board has developed five core measures (employment, earnings, skills/credentials, participant satisfaction, and employer satisfaction) that can be used for all major workforce programs.

Outcomes-Based Funding

Ohio
Outcomes-Based Funding for Colleges and Universities
In 2009 the Regents created a new funding formula that intensified rewarding colleges for performance. Called the State Share of Instruction (SSI), the single base subsidy formula was separated into three separate formulas, one for each major sector: community colleges, regional campuses, and university main campuses. The creation of separate formulas enabled each formula to better link the sectors' different missions to their funding streams. While the universities are primarily funded based on course completion and, over time, degree completion, the formula for community colleges is more nuanced. It includes indicators such as the completion of developmental education courses, the transition between developmental and college-level courses, the completion of 15 credit-hours and 30 credit-hours of college-level coursework, the number of associate's degrees awarded, and the transfer rates into a four-year school. Furthermore, all of Ohio's funding formulas reward the achievements of at-risk students, as defined by economic, demographic, and college-preparedness data collected by the state. The funding system provides 10% of community college funding and 20% of university funding. Stop loss provisions were put in place during implementation to give institutions a chance to adjust over time to the new funding model.

Tenessee
Higher Education Performance Funding
Tennessee's performance funding program recently shifted focus to linking outcomes with economic needs. The outcomes-based model is described in *The Public Agenda for Tennessee Higher Education 2010-2015*. This master plan for higher education calls for the production and analysis of data on broad institutional activities such as student progression, undergraduate and graduate degree production, research at both universities and community colleges, certificate and associate awards, student transfer and job placement. The new model rewards institutions for the production of these outcomes.

Institutionally specific weighting factors included in the performance funding system are designed so that the state can clearly communicate its expectations to each institution. Completions in high-skill, high-demand fields is among the options institutions can choose to help them reach goals of the higher education master plan and thus earn financial incentives from the state. However, less-demanded fields (like liberal arts) will continue to be based on productivity and faculty workload. Thus these fields will be held harmless by the funding formula, ensuring the importance of a liberal education to society.

Washington
Student Achievement Initiative and Performance Funding for Community Colleges
In 2006 the Washington State Board for Community and Technical Colleges (SBCTC) developed a *Student Achievement Initiative* (SAI) to measure progress on indicators deemed crucial to student success and provide institutions with additional funding to implement student success strategies as they show improvement on these indicators. The four achievement measures include building toward college skills, retention rates, completing college-level math, and completion (degrees, certificates, or apprenticeship trainings). The system works by awarding points for each student success or milestone.

State Strategic Plan

Florida
Florida University Planning System and Performance Indicators Board of Governor's Strategic Plan
This strategic plan provides goals and metrics through:
- Annual Accountability Report – tracks annual system progress
- Annual Institutional Work Plans – connects accountability reports with strategic plan relative to institutional contributions

System metrics link alignment of programs to labor market needs.

Kentucky
Industrial Sector Strategy
Regional industry-focused approach to build skilled workforces and to align education and training services to address workforce needs.
- Data-driven approach to target industries
- Qualitative approach to target subsectors within industries

Target industries that:
- Create additional economic impact
- Pay family-sustaining wages
- Align with regional workplace capabilities
- Have significant demand for products and services
- Are expected to add new jobs to the economy

Virginia
Legislative Framework for Data Integration
The *Virginia Higher Education Opportunity Act of 2011* has the goal of conferring approximately 100,000 cumulative additional undergraduate degrees on Virginians between 2011 and 2025, accompanied by a comparable percentage increase in privately conferred Virginia undergraduate degrees over the same period. Emphasis is given to STEM and health areas.

Alignment of Workforce Needs with Workforce Development Skills Programs

Texas
Detailed Work Activity Common Language Project (DWA)
Texas has developed a method of aligning the skills "demanded" with the skills "supplied" from the educational providers through providing real-time automated and semantic database of employable skills. These skills are defined in what is called a detailed work activity (DWA). The new DWA statements provide more detailed job descriptions than what O*Net provides. This automated system recognizes phrasing patterns from online job postings and is able to continually update occupational descriptions. Today, the DWA Library can inform job seekers of precisely the skills they will need to perform the vast majority of jobs. The system is easily audited and updated by participating Texas employers.

While there are many applications, most important are the application of DWA to align and develop market responsive curricula, and regional labor market analysis, in which skill profiles are created for one or more industries or groups of occupations and skill gaps are identified for regions or clusters. To assist the alignment of educational programs, institutions must articulate what students are learning in the same language as DWA so that skills taught can be compared with skills "bought," i.e. the tasks performed on different jobs.

Washington
State Cross-Walking Methodology to Estimate Demand for Higher Education
Washington supplements Bureau of Labor Statistics occupational forecasts with a crosswalking methodology to estimate postsecondary education demand. This provides an ability to verify the range of educational attainment within job categories and then to link self-reported amounts of education with different wage levels.

Job Postings Linkage System

Minnesota
ISEEK: Minnesota's career, education, and job resource system
ISEEK is Minnesota's career, education, and job resource system. It is a one-stop, online system where users can explore careers, education options, and research and apply for current job vacancies. ISEEK's information on employment and earnings of program completers comes from UI Wage Record data.

Ohio

OhioMeansJobs: Job Postings

State's web-based labor exchange that matches job seeker resumes with job vacancies. The system integrates Wanted Analytics (compiler and driver of job ads), Monster (compiler and driver of resumes), and Help Wanted Online Ohio (provides information on job vacancies).

Other

Stackable Credentials

Minnesota

Minnesota FastTRAC

Minnesota's FastTRAC initative provides a stackable credentials framework to coordinate programming and policy alignment across several state entities.

Stakeholder Collaboration

Virginia

Assuring Institutional Buy-In

Virginia has taken considerable time to assure stakeholders are in accord with what gets measured, how data shall be collected and the policy purposes to be served. Details such as how and when the data is published and the process for report development are closely developed through a collaborative process.

APPENDIX C
OCHE Staff Analysis: Data Management and Dissemination

The Office of the Commissioner of Higher Education staff examined state input reported by Dr. Barry Stern to assess how states manage and disseminate data with respect to four key categories as identified below. A summary of comments from Dr. Stern's report provides a description of how each state that is associated with a category relates to a particular management and/or data dissemination item.

- State Operational Structures
    - Governance
    - Database Structure
    - Data Access Policy
- Use of Data within Industry Partnerships
- Data Gaps
    - Unemployment Insurance Information
    - Regional / Inter-State Data
    - Crosswalk Systems
    - Real-time Labor Market Information
- Access to Data
    - Policy Makers
    - Students and Job Seekers

State Operational Structures

Governance

Connecticut
Federated data system
Connecticut is building a federated data system where each participating agency retains ownership over its data and continues to ensure its quality and how it will be released and used. A central entity will be responsible for matching data across agencies for particular reports and studies that are approved by participating agencies, thus ensuring compliance with both federal and state privacy protection provisions.

Kentucky
Industrial Sector Strategy
Kentucky is among the leading states in using sector strategies — regional, industry-focused approaches to build skilled workforces — to align education and training services to address the workforce needs of employers and thus make regional economies more globally competitive. The plan calls for a bottoms up data-based and consensus assessment of what constitutes an economic region, the current and potential future contributions of various industries to the economic vitality of that region, targeting industries for investment on the basis of decision criteria determined by a multi-sector team of analysts and opinion leaders, and assigning roles and responsibilities to education and training institutions to meet targeted sector needs. Kentucky created a consensus-based, decision-making process that encourages deliberate consideration of both qualitative and quantitative data to prioritize among targeted sectors.

North Carolina
The P-20W Council and the Federated Data System
North Carolina's emerging data structure will be governed by a P-20W Council, a decision making body composed of key interagency representatives charged with the responsibility for and empowered with the authority to set policy and resolve issues concerning statewide data collection, management, and use. The Council has a working group that represents both the policy and technical components of data management.

Ohio
The Governor's Office of Workforce Transformation
Executive Order 2012-02K created the Governor's Office of Workforce Transformation to streamline Ohio's workforce development structure that is comprised of 77 different programs across 13 state agencies. The new office, which reports directly to the Governor, will work to ensure that employers and individuals have access to the workforce development resources they need to both grow their business and provide for their families.

Virginia
Federated Data System
Virginia will use a federated system to merge data across agencies, where each agency has its own rules for ensuring the quality of its own data and how it will be released and used. A central entity will be responsible for matching data across agencies for particular reports and studies, ensuring compliance with both federal and state privacy protection provisions.

Legislative framework for data integration
The Virginia Higher Education Opportunity Act of 2011 has the goal of conferring approximately 100,000 cumulative additional undergraduate degrees on Virginians between 2011 and 2025, accompanied by a comparable percentage increase in privately conferred Virginia undergraduate degrees over the same period. This would be accomplished by expanding enrollment in both public and private higher education institutions, improving undergraduate graduation and retention rates, and increasing degree completion with partial credit toward a college degree, including students with ongoing job and family commitments who need access to nontraditional college-level educational opportunities. The legislation particularly calls for college degree attainment in high-demand, high-income fields such as science, technology, engineering, mathematics, and health care, and by providing information about the economic value and impact of individual degree programs by institution.

Database Structure

Florida
Data Warehouse
Florida has all of its P-20 public institutions in one department. This facilitates warehousing all system data in one place, unlike other states that have a federated system where each agency has its own rules for ensuring the quality of its own data and how it will be used. Florida has been building its data system for 30 years and thus has ample data to establish trends and link different data sets to one another.

North Carolina
The P-20W Council and the Federated Data System
North Carolina's interagency data management is based on a data broker model and is comprised of five federated data systems. It is designed as a hub and spoke system with each of the five agencies' existing data systems as the spokes and a new central data broker as the hub. The system will enable a researcher to send a query via the data broker hub that will transparently integrate multiple autonomous database systems into a single federated database, creating a result with data from multiple sources. The constituent databases are connected on a secure computer network and may be geographically decentralized. Under a federated data system, each agency is responsible for its own data, which is a simpler alternative than merging each constituent organization's database into one data warehouse. The data hub will provide a fully integrated, logical composite of all constituent databases for reporting and research questions while maintaining ownership and data quality with each agency.

North Dakota
Warehouse for Job Service Programs
A Workforce Data Quality Initiative grant provides funding for the development of an operational data warehouse. This data warehouse will act as a data source to link with individual records from other programs in the educational and workforce longitudinal data system for analytic and reporting purposes. It will also act as a repository for outcome measures developed from linkages to other data sources. The Job Service data warehouse will include data captured from unemployment wage records, unemployment tax records, unemployment benefits records, Workforce 2020, North Dakota New Jobs Training, Trade Adjustment Assistance, Workforce Investment Act, and the Wagner-Peyser Act. For each workforce program data will also be collected on cost of the program, number of completers and geographic location to determine effectiveness.

Personal Identifier and Driver's License Linkage
Record matching within the workforce education longitudinal data system will rely on several key identifiers including SSN, name, date of birth (DOB), K-12 student ID, and North Dakota University System (NDUS) student ID. In support of this matching effort, the state plans to create a linkage with drivers' license data from the Department of Transportation (DOT). A data sharing agreement under development between Job Service North Dakota (JSND) and DOT will outline the specific terms surrounding the data linkage. Linking to driver's license data by SSN will allow the capture of updated address and DOB information for Job Service records already containing name and SSN data. As part of the Workforce Data Quality Initiative project, personal identifying data will be loaded into the Master Index where identifiers from other education and training programs will exist. This component of the architecture will be used to track students entering and leaving the longitudinal data system through numerous feeder systems and applications. The Master Index components will be operated by the Information Technology Department (ITD) in a secure environment. Data owned by DPI, NDUS, JSND, DHS, the Commerce Department and DOT contained in the Master Index will be governed by data sharing agreements coordinated by the SLDS Committee. Access to the individual data within the Master Index will be very tightly controlled.

Ohio
Workforce Data Quality Initiative Grant to link workforce and Higher Education Data
In 2010 Ohio received $1 million from the U.S. Department of Labor for its Workforce Data Quality Initiative grant. Through a partnership agreement, employment and higher education data from the Ohio Department of Job and Family Services and the Ohio Board of Regents respectively will be centrally warehoused and managed at the Ohio State University's Center for Human Resource Research (CHRR). This will promote state level data sharing and provide an opportunity to link with the State Longitudinal Data System managed by the Ohio Department of Education.

The data warehouse at CHRR will contain workforce and unemployment insurance wage record and claims data, student higher education data and data on participants in adult literacy and workforce training programs. Thus, analysts would be able to track over time the employment and earnings outcomes of participants in higher education (e.g. 1, 3 and 5 years after graduation) and adult programs. By putting their respective data elements into a single repository, the partner agencies will be able to answer a wide range of education and workforce policy questions.

Washington
Washington Data Quality Initiative
In 2012 Washington received a $1 million grant from the U.S. Department of Labor to develop the state's workforce longitudinal data system within the state P-20/Workforce (P-20W) system. The state intends to achieve complete connections between all workforce and all education data pertinent to state economic performance and educational advancement.

Three deliverables are proposed in Washington's grant project: 1) Enhancing unemployment wage data; 2) Offering service providers a simple way to receive non-confidential summary employment data; and 3) Conducting research and analytical studies that include:
- Net impact analysis of Washington State's Training Benefits Program
- Longitudinal study of unemployment insurance claimant outcomes
- Net impact analysis of individual training accounts
- Net-impact analysis of post-secondary education

Data Access Policy

Virginia
Longitudinal Data System to Link Data among State Agency Data Sources
In the process of developing its federated data system Virginia has:
- Developed a rubric to document data element definitions, data requirements, and technical requirements for de-identified data sets that can be linked among agencies
- Built a central linking directory based on data sharing agreements in place or established as part of the grant project
- Established a query process for authorized user access that uses the linking directory to anonymously join individual-level records from multiple data sources.

Use of Data within Industry Partnerships

Kentucky
Industrial Sector Strategy
Kentucky uses sector strategies, i.e., regional, industry-focused approaches to build skilled workforces, to align education and training services to address the workforce needs of employers and aid in making regional economies more globally competitive. The plan calls for a local-level consensus assessment of what constitutes an economic region, current and potential future contributions of various industries to the economic vitality of a region, targeting industries for investment on the basis of decision criteria determined by a multi-sector team of analysts and opinion leaders, and assigning roles and responsibilities to education and training institutions to meet targeted sector needs.

Minnesota
Centers of Excellence
In 2005, Minnesota State Colleges and Universities (MnSCU) established centers of excellence in health care, manufacturing and engineering, and information security at four state universities and 18 community and technical colleges. These centers offer programs, practical research, and connections with K-12 schools and business and industry to help local economies thrive and position Minnesota for a strong future. The Centers are staffed by MnSCU personnel yet each operates independently according to the perceived needs of each sector. The Centers work closely with industry-led program advisory committees in each postsecondary institution. An annual report is prepared that presents data on effectiveness of postsecondary education in meeting talent needs and benchmarks the state to other states and countries.

Data Gaps

Unemployment Insurance Information

Texas
Possible Additions to Unemployment Insurance Wage Records
Texas has been able to determine the changing quarterly earnings of postsecondary graduates in different fields by linking transcript data to unemployment insurance wage records. However, these records have limitations so Texas intends to explore additions to unemployment insurance wage records to include: 1) Payroll job title; 2) Hours worked by an individual in a quarter; and 3) County of worksite location.

Virginia
Virginia has developed the legal framework and technical structure to allow the merging of individual-level data across agency domains. The most prevalent appears to be matching postsecondary graduates to unemployment insurance wage records from the Virginia Employment Commission. In addition to wage outcomes for graduates, two bills (HEA of 2011 and HB 639) taken together require information to be developed and disseminated on the following:
- Proportion of graduates with employment at 18 months and five years after the date of graduation for each public institution and each private nonprofit institution of higher education eligible to participate in the Tuition Assistance Grant Program. Marketplace demand

- Indicators of historical and projected economic value of degrees that can be used to assess degree programs in order to provide useful information on the economic impact of degrees to students as they make career choices and to state policy makers and university decision makers as they decide how to allocate scarce resources.
- Employer satisfaction

Virginia is cautious in using unemployment insurance wage record data to estimate employment rates of graduates of different postsecondary programs, especially 4-year baccalaureate programs. Most of the concerns have centered on the value of employment data given the wide variety of possible choices of graduates during the first five years after graduation. The greatest reservation is that many may choose earning opportunities that are not covered by unemployment insurance and thus are not part of the dataset available. Another caveat in the use of unemployment insurance wage records to estimate employment rates of graduates is the reduction of postsecondary programs that can be studied because of Virginia's strict privacy laws and its interpretation of what is required to protect the confidentiality of personally identifiable information under the federal Family Educational Rights and Privacy Act. The State Commission for Higher Education for Virginia has taken additional steps beyond what is required to ensure data confidentiality and comparability across institutions and programs.

Regional / Interstate Data

Washington
WICHE Multi-State Longitudinal Exchange
The ability of a state to estimate how well schools and colleges help graduates secure employment or advanced education is limited by data systems that can only measure what happens to those who obtain and retain jobs or pursue education in the same state they graduated. Yet many graduates work or enroll in colleges in neighboring states. With support from the Bill and Melinda Gates Foundation, the Western Interstate Commission for Higher Education (WICHE) is working with four Western states (Washington, Oregon, Idaho, and Hawaii) to address this issue with its Multistate Longitudinal Data Exchange project. Its principal objective is to pilot a data exchange among several states with WICHE coordinating efforts to develop the necessary architecture for the exchange of data, effectively govern the exchange, produce standard reports, and ensure the protection of privacy. Possibly, other states in the region can join this effort once it has been proven effective.

CIP-SOC Crosswalk

Tennessee
Labor Market Supply and Demand Study with Customized Crosswalk
The Higher Education Commission (THEC) asked the Center for Business and Economic Research (CBER) at the University of Tennessee, Knoxville to develop a Labor Market Supply and Demand Study. The study provides supply and demand projections from 2008 to 2018 by discipline and degree level. CBER's task was to create a crosswalk between instructional programs and occupations. As might be anticipated, the relationships between degree programs and the occupations they feed are often one to many, or many to one. This is particularly true of academic programs at the baccalaureate level. So, while such nuances require caution in reading, interpreting, and drawing conclusions from the report, the report offers guidance not previously available. Specifically, it assesses the demand for graduates from certain degree programs at certain levels and thus:
- Enables institutions to calibrate program offerings to current and projected labor market conditions within the state;
- Makes market demand a stronger and more reliable component of the program approval process;
- Helps policymakers at the system or state level make judgments about academic program duplication; and
- Provides useful information to institutional leaders who must make internal resource reallocation decisions.

Washington
State Cross Walking Methodology to Estimate Demand for Higher Education
Washington supplements Bureau of Labor Statistics occupational forecasts with a crosswalking methodology to estimate postsecondary education demand. This provides an ability to verify the range of educational attainment within job categories and then to link self-reported amounts of education with different wage levels.

Real-time Labor Market Information

Kentucky
Dynamic Skill Audits with Real-Time Labor Market Information

With structural unemployment and a dire economy reducing the predictive power of long-term projections, Kentucky is among six states participating in a real-time Labor Market Information (LMI) exploratory project operated by Jobs for the Future (JFF) with a $600,000 grant from the Lumina Foundation. Its purpose is to (1) determine whether Burning Glass data about knowledge and skills most often sought by employers in vacancy announcements on Internet job boards can help selected universities and community colleges make better, cost-effective investments in academic and technical programs leading to postsecondary degrees and credentials, and (2) develop an easily replicable Dynamic Skill Audit process for assessing curricular content and programs in light of labor-force needs using reasonably priced data tools. A few Kentucky community colleges have piloted aligning college curricula in the nursing and machine tool fields with real-time knowledge and skill demand data assembled from these Burning Glass sweeps of Internet job boards. The Kentucky community college system is now encouraging each community college to choose a couple of program areas for a similar effort to better align curricular objectives to the knowledge and skill requirements listed in job vacancy announcements. Ultimately, the system would attempt to measure the extent to which initial skill gaps were closed by using this approach, and whether the graduates of participating institutions in the selected fields (program majors) had better wages and more consistent employment than graduates of institutions that had not used this approach.

Minnesota
ISEEK: Minnesota's Career, Education, and Job Resource System

ISEEK is Minnesota's career, education, and job resource system. It is a one-stop, online system where users can explore careers, education options, and research and apply for current job vacancies. ISEEK's information on employment and earnings of program completers comes from unemployment insurance wage record data.

Ohio
OhioMeansJobs: Job Postings (Real-Time) Data to Map Knowledge and Skills to Workforce Needs

OhioMeansJobs (OMJ) is the state's web-based labor exchange, matching job seeker resumes with job vacancies. In addition to OMJ's talent and job search, this supply and demand portal uses Help Wanted Online and Monster's Talent Dashboard as analytical tools to understand and describe the current labor market. Wanted Analytics is the compiler and driver of job ads and Monster the compiler and driver of resumes. These private company tools are integrated into the OhioMeansJobs interface. The Workforce Analytics unit within the Ohio Department of Job and Family Services manages licenses shared with partners across the state.

Texas
Detailed Work Activity Common Language Project

This project breaks work responsibilities into a common language of 2,300 work activity statements across hundreds of occupations. It builds on the O*Net system of the U.S. Employment and Training Administration. SkillsNet (a private firm) performed a desktop audit of O*Net statements to ensure grammatical and syntactical consistency, phrasing and uniformity across all 800 plus occupations in the SOC taxonomy. The new Detailed Work Activity (DWA) statements provide more detailed job descriptions than provided by O*Net, providing a higher level description of work that is performed in roughly the same way across multiple occupations. The system builds and continually modifies work statements by sweeping Internet job postings. Thus, with continually verified detailed work statements, Texas' skills-based system is more useful for labor exchange, career development plans and aligning curricula with labor market demand than O*Net or other systems which match occupational titles (SOC codes) with educational program (CIP) codes.

Access to Data

Policy Makers

Florida
Florida University Planning System and Performance Indicators
The State University System of Florida (SUS) has developed three tools that aid in guiding the System's future:
- Board of Governors' Strategic Plan
- An Annual Accountability Report
- Yearly institutional work plans

These three documents assist the Board of Governors with strategic planning and with setting short-term and long-term goals. They also enhance the system's commitment to accountability and driving improvements in three primary areas of focus: 1) academic quality, 2) operational efficiency; and, 3) return on investment. The goals initially translated into 24 performance indicators, but others are being considered per the interests of the Florida Legislature. In the context of University Work Plans, each year public universities reports performance on each indicator. A strategic plan and an annual report serve as the basis for an annual dialog between SUS and university officials on institutional plans for contributing to overall state performance.

Ohio
The Governor's Office of Workforce Transformation
Ohio's Office of Workforce Transformation (OWT) was established to streamline the state's workforce development structure. A new state and local workforce data collection system with cross-agency performance measures is being developed to support the Governor's goal of a single, coherent, unified workforce development system. The data collection system will produce information on economic, employment and education conditions, and the skill needs of employers. The OWT will use this information to streamline and align programs, resources, and performance measures across state government and provide guidance on funding levels for workforce programs that serve employers as well as incumbent and dislocated workers.

Tennessee
Labor Market Supply and Demand Study with Customized Crosswalk
In partnership with higher education, the Center for Business and Economic Research (CBER) at the University of Tennessee, Knoxville developed a Labor Market Supply and Demand Study. The study provides supply and demand projections by discipline and degree level. The report assessed demand for graduates from certain degree programs at certain levels and has been used for program alignment and development.

Students and Job Seekers

Connecticut
Link to College Navigator of the National Center for Educational Statistics
The Connecticut College and University System (CCUS) links directly to each institution's National Center for Educational Statistics (NCES) College Navigator profile, allowing consumers to access student outcomes and net price information for each school. Information is displayed for both public and private two-year and four-year institutions. Outcome descriptors for each institution include retention of first year students and number and type of completions (degrees and certificates) by program area.

Occupational Demand-Supply System
Connecticut encourages education program planners and students making career choices to use the Occupational Supply Demand System (OSDS) developed by National Supply Demand Consortium. This system provides information for each state for some 740 occupations on median wage change from 2006-2010 and projected employment growth and average annual openings in these occupations from 2008 – 2018. System users can see which Program(s) of Study and CIP codes correspond with particular SOC codes and they can search occupations and educational programs associated with 16 career clusters identified by the U.S. Department of Education.

Florida
Smart College Choices Web Portal
In 2012 the Florida Department of Education announced the availability of its new Smart College Choices web portal that allows prospective and current students to view graduation rates, employment statistics and earnings data for graduates of the 28 Florida college system institutions and Florida public school district career centers. The web portal is the first step in implementing recent legislation to better link education to economic development by helping students see the direct connection between higher education and job placement. The portal provides career information for students from the state data warehouse and makes it more user friendly. Students can view data on how much they may earn from a degree or certificate program, the percentage of graduates who secured jobs in Florida, and how many completed a program.
Minnesota

Minnesota
ISEEK: Minnesota's Career, Education, and Job Resource System
ISEEK is Minnesota's career, education, and job resource system. It is a one-stop, online system where users can explore careers, education options, and research and apply for current job vacancies. ISEEK's information on employment and earnings of program completers comes from UI Wage Record data.

North Carolina
Common Follow-up System
In 1992, North Carolina's education and workforce partners established the Common Follow-up System (CFS), a collaborative effort focused on linking individual-level data with data from the state's unemployment insurance wage files. The CFS system grew through recognition by state agencies that quality outcome information was needed on participants of educational, employment, and training programs. The CFS contains information on over eight million unique individuals from 11 participating entities.

The Education and Training Consumer Guide is an important outcome of the CFS. It provides employment and earnings information for completers of programs offered by the University North Carolina System (UNC) and the North Carolina Community College System (NCCCS). It enables users to search by institutions or by programs and calculate an employment rate of program completers in an institution. It also displays how many students complete a program over a 5-year period and the average annual wage paid them in $10,000 wage categories per year for each of five years after completion.

Washington
Career Bridge Consumer Report
Career Bridge is a one-stop, searchable database of post secondary training providers and programs. It displays graduation rates and employment figures by program and school. Students, career counselors, job seekers and others use Career Bridge to discover:
- Which programs qualify as Eligible Training Providers (ETP)
- Career planning tools to help decide on a career choice
- Average earnings and employment outlook for each career choice
- Promising occupations for the future
- Education and training levels required for occupations