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CAEL

August 16, 2010

Department of Administration
Purchasing Division
Building 15
2019 Washington Street, East
Charleston, West Virginia
25305-0130

To the Selection Committee:

It is with great pleasure that I submit to you this proposal for consulting services to Workforce West Virginia in support of your Regional Innovation Grant. We have assembled a highly experienced team with a long history of success in workforce development planning.

This document presents our response to your Request for Qualifications #WWV11865 and includes the following information:

- Program Description
- Organizational Background
- Project Team Experience
- Scope of Work
- Price Proposal and Project Schedule

We thank you and the evaluation committee in advance for your consideration.

Best regards,

Joel Simon
Associate Vice President

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CAEL
The Council for Adult & Experiential Learning

CHMURAECONOMICS&ANALYTICS

Workforce West Virginia – Advantage Valley Regional Innovation Grant

Proposal for Consulting Services

RFQ Number WWV11865

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Associate Vice President for
Public Sector Services

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Program Description

The Council for Adult and Experiential Learning (CAEL), along with our partner Chmura Economics & Analytics (Chmura), is pleased to respond to the Workforce West Virginia Regional Innovation Grant (RIG) Request for Qualifications for Consultant Services. CAEL and Chmura (The Project Team) bring substantial expertise in researching and defining workforce needs and assets and developing strategies to close skills gaps in critical sectors. The comprehensive economic analyses to be provided by Chmura combined with the assessment of institutional assets and workforce program resources to be provided by CAEL will enable the region to clearly identify industry sectors which represent strategic opportunities for increasing employment and wealth in the region and the skill-development assets needed to meet those sectors' human capital needs. The analysis of how the region and its workforce is positioned to develop each potential industry sector (Strengths and Opportunities), and what factors may hinder that development (Weaknesses and Threats) will provide the basis for regional stakeholders in developing a Strategic Implementation Plan (SIP) for workforce and economic development.

Organizational Background

CAEL Background

CAEL is a national non-profit leader in the fields of adult learning and workforce development. Since our founding in 1974 CAEL has been an active partner with government, business, labor community-based organizations, and higher education, addressing employee and learner skill development to promote individual growth and respond to emerging community workforce needs. CAEL has extensive experience building and managing large-scale projects for states, municipalities, regional consortia, and serving as an intermediary in communities for learning and development-related projects. CAEL's experience includes:

- Serving as a Technical Assistance provider to the US Department of Labor and the 13 first-round WIRED grantees, providing assistance with implementation planning, asset mapping, gap analyses, best practice research and program guidance
- Providing consulting, research, facilitation and planning assistance to initiatives based on the WIRED principles including the US DOL Regional Transformation Forums, Regional Innovation Grants in Connecticut and Kentucky, High Growth and Community Based Job Training Grants in Ohio and Arkansas, and local efforts based on WIRED principles in Missouri, Texas, California, North Carolina and California.
- Assisting states and cities to develop blueprints for change in workforce development and lifelong learning aligned with economic development priorities and visions — and then working with colleges and industries, businesses, unions and workforce agencies to implement those changes on a regional and local basis.
- Analyzing the skills demand related to sustainability and Green Jobs priorities and developing strategies to create Green Jobs initiatives in Texas, Colorado and California.
- Documenting Career Lattices in a variety of disciplines including Aerospace, Energy, Healthcare, Life Sciences, Construction, Transportation/Logistics, and Manufacturing for national, state and regional economic development initiatives in Arkansas, Illinois, Ohio, Pennsylvania, North Carolina, and the Delaware Valley Region (Delaware, New Jersey and Pennsylvania), and nationally.

- Providing consulting to cities and states on assessment of employer workforce skill needs and assessment of workforce skill levels.
- Conducting educational inventories, asset maps and gap analyses for communities in support of Regional Innovation Grants and other transformation agenda.
- Designing and managing current programs and consulting projects at over 100 major companies in over 40 states, meeting the education and training needs of a diverse range of workforce populations totaling over 750,000.
- Managing local and regional networks of education and training providers representing a broad range of disciplines, from basic skills and literacy instruction to technical training institutions, colleges, and universities.

With a staff of 39, a subsidiary, EdLink, that manages tuition assistance programs for companies, an independent career advisor network of 75, and a membership of over 700 colleges, universities, corporations, labor unions, associations, and individuals, CAEL is headquartered in Chicago and also maintains offices in Denver, CO, Philadelphia, PA and New York City.

Chmura Background

Chmura Economics & Analytics (Chmura) was founded by Christine Chmura in 1999. The firm is a women and minority owned small business[1] with headquarters in Richmond, Virginia. Chmura currently has ten professional staff members plus temporary support staff. A branch office was opened in Cleveland, Ohio in 2005. The firm specializes in applied economic consulting, quantitative research, and software solutions requiring the integration of advanced economic analysis. Work has included workforce and economic development, site selection, and impact analysis. Chmura publishes Virginia Economic Trends, now in its tenth year, electronic publications and forecasts available via www.chmuraecon.com, and custom publications. Software products include JobsEQ®, currently in widespread use by economic development agencies throughout Virginia and the nation. Chmura's Services Includes:

Economic and Workforce Development - Chmura offers a variety of state-of-the-art tools and consulting services to grasp area workforce inventories, industry conditions and target markets, as well as occupation clusters (career ladders). Our scientific approach, which we often couple with focus groups and interaction with key decision makers, leads to products that are understandable, action-oriented, and measurable. We help educators determine demand for training programs. We survey students, community members, and businesses to gauge the unique regional dynamic interacting with the educational system. Our software identifies the skills and training needs required to move from one occupation to another. Our analysis of regional education providers and industry mix produces comprehensive education gaps: annual deficits or surpluses in the number of graduates from CIP-coded postsecondary education programs.

Research - Chmura analyzes the economic impact of construction projects, as well as the impact of companies and industries. This includes traditional input-output analysis, as well as other quantitative methods to determine the impact on area economy, labor market, and other specific markets. Our focus group sessions help natural leaders emerge while teams work to bring the vital issues to the discussion table. We build sophisticated economic models simulating US, state, and metropolitan areas as well as industry and firm-

[1] SWAM number S-9700.

specific models. Our national model forecasts over 100 indicators, including major economic activities such as GDP, interest rates, housing markets, retail sales, and employment. While we have always provided accurate, timely data, it is our analysis that sets us apart from the competition. Our customized labor market studies include the data you seek, while providing commentary and analysis to help the non-economist understand the story behind the data.

Regional Economic Development - Chmura analyzes the strengths and weaknesses of an area's industry, competitiveness, composition, identifying industry clusters; finding industries that best fit an area's economic development goals, and target marketing. Work in this area includes regional industry analysis. We can also help firms find the best location for their business using MarketsEQ®. We provide consulting services to help businesses find the ideal location. Our approach is research-oriented and results driven. Economic Indicators provide a systematic approach to matching your firm's needs with the best market access for your products and services as well as matching your firm to the skills needed by the local workforce.

Software Solutions - The firm's many years of experience with economic data and analysis has given us the insight to pull together various data sets and create analytics that answer our customer's questions in an efficient manner with easy-to-navigate software. JobsEQ® is a powerful software tool that enables workforce and economic development, education, and job seekers to assess the skills, occupations, and industries that will be in demand or surplus in the future. It provides the information necessary to create a Department of Labor Community Audit. MarketsEQ® helps businesses and economic developers find the ideal location for a particular firm to expand, relocate, or start-up their business.

Project Team Experience

CAEL Experience

The Eastern Connecticut Workforce Investment Board (EWIB) was awarded a Regional Innovation Grant (RIG) from the US Department of Labor to support analysis of emerging economic opportunities for the region (which includes three counties in Connecticut, two counties in Rhode Island, and one county in Massachusetts). CAEL examined data on current and projected economic demand, identified critical skills needs for existing and emerging industries, and inventoried the region's education and training infrastructure to ascertain its ability to produce the workforce necessary to help the region achieve economic success. CAEL's work resulted in a series of recommendations for improvement in the availability of education and training, the ability for the workforce and education system to deliver appropriate skill-development services, and collaboration among regional stakeholders.

John Beauregard
Eastern Connecticut Workforce Investment Board
Executive Director
(860) 859-4100 x20
beauregardj@eLWIB.org

The **City of San Antonio, Texas** has undertaken a broad sustainability effort and engaged CAEL to design a green jobs initiative for the City. CAEL helped the City to define green jobs and document career pathways in green disciplines connected to the broader sustainability initiative; CAEL assessed area education and training providers' capacity to develop green skills; conducted national research on existing programs aimed at developing green skills; and created the design and work plan for the Green Jobs program. After submitting the research and proposed plan, CAEL was engaged by Alamo Colleges to research and develop funding opportunities for implementation of the green jobs initiative. Our work in San Antonio resulted in recommendations which have guided development of San Antonio's Green Jobs strategy including addition of new education and training offerings, formation of the Mayor's Green Jobs leadership council, linking public investment in retrofit and renewable energy with workforce development, creating broad communications and information mechanisms, and identifying fundraising opportunities.

Lawrence Doxsey
Director of Environmental Policy
City of San Antonio, Mission Verde Initiative
(210) 207-1721
w.lawrence.doxsey@sanantonio.gov

In 2008 **the Workforce Investment Board of Southeast Missouri** engaged CAEL to conduct a study of technical education in the 25th senatorial district, which encompasses seven lower-income rural counties. CAEL identified gaps within the current educational delivery system by analyzing demographic and labor data, creating an inventory of schools and Career and Technical Education (CTE) programs in the district, and surveying regional companies for their workforce and skill needs. The resulting report contains an overview of the district and its educational opportunities as well as a set of recommendations for workforce development and government officials outlining measures to bolster access to and expansion of CTE.

Workforce Investment Board of Southeast Missouri
Scott Sattler, Business and Industry Services Manager
(573) 334-0990
scott@job4you.org

CAEL was funded through the **US Department of Labor (DOL)** to develop **CNA and LPN Apprenticeship Programs** that connected to a capstone LPN to RN model based upon experience with the pilot stage of the *Healthcare Career Advancement Initiative* (H-CAP), which addressed the shortage of qualified RNs across the country. CAEL's career ladder model incorporated innovations such as linking activities to the Workforce Investment System, leveraging available (and creating new) student support services, forging additional collaborative partnerships between healthcare and higher education, and encouraging application of best practices in workforce development throughout the healthcare industry. Throughout this project CAEL was able to document opportunities within the Healthcare industry and apply that knowledge to an apprenticeship program which encouraged careers in the industry and contributed to a national dialogue addressing nursing shortages.

Laura Ginsburg
DOL/ETA Office of Apprenticeship Training and Employer Labor Services
202-693-2799

LGinsberg@doleta.gov

Chmura Experience

Chmura's multi-state client base includes economic developers, workforce practitioners, education reformers, firms seeking information and data to make sound decisions, governors and secretariats, chambers of commerce, lobbyists, developers, target marketers, counties and localities, firms and corporations seeking fiscal analysis for project and incentive-based discussions, as well as many other public and private entities with needs for credible information on a timely basis. Chmura served over 100 clients during the past two years with projects and services spanning a multitude of public and private entities. Furthermore, Chmura's online products currently serve over 9,000 international users and subscribers across the nation receive Chmura's weekly and quarterly publications.

Mid-Atlantic Regional Collaborative

Workforce Development System Gap Analysis and Asset Mapping for BRAC-Impacted Areas in the MARC Region

Analysis of the workforce and assets relative to expected industry changes due to Defense Base Realignment and Closure (BRAC) and increased demand for "green" goods and services in the Washington D.C. metropolitan area. A social networking tool was also used to help implement the strategic plan created from this analysis.

Statewide BRAC Project Coordinator
Ms. Susan Baker
Northern Virginia Community College
8333 Little Turnpike
Annandale, Virginia 22003
(703) 403-6983
sbaker@nvcc.edu

Labor Market Analysis 2009/Tourism Study 2010

Tompkins County, New York initially contracted with Chmura to conduct a labor market study in 2008-2009. The region has a high-level of underemployed, highly educated workers. Chmura's study helped the local region refresh its thinking in regard to developing workforce development strategies that more closely dovetailed the economic development target markets and strategies in place in the region.

Ms. Martha Armstrong **(Provided labor market study including focus groups and survey, JobsEQ, Local Business Portal)**
Vice President and Director of Economic Development Planning
Tompkins County Area Development
200 East Buffalo Street, Suite 102A
Ithaca, NY 14850
607.273.0005
marthaa@tcad.org

The Virginia Community College System WIZARD

Chmura created the VCCS student portal "WIZARD" which connects education seekers with the educational options in the Commonwealth of VA—the WIZARD is a one stop shopping information portal that serves the traditional and non-traditional student, parents and jobseekers.

Craig Hendron, PhD. **(Chmura Created WIZARD for the Virginia Community College System – portal for public to access career information, financing for college, etc.)**
Director of Career and Educational Resources
Academic Services & Research
Virginia Community College System
101 N. 14th Street, 15th Floor
Richmond, VA 23219
804.819.4782
cherndon@vccs.edu

Project Team

CAEL Staff Bio's

The overall execution of all project aspects will be led by **Joel Simon, Associate Vice President for Public Sector Services.** Mr. Simon brings 10 years of experience developing new program and funding initiatives for the public workforce investment system and its partners in education, economic development and the private sector. He has developed Green Jobs analyses and plans for initiatives in Texas, Colorado and California. He has provided consulting to multi-stakeholder workforce initiatives in 18 states, and has worked with public and private partnerships to understand and address skills needs in a variety of existing and emerging sectors including aerospace, aviation, energy, life sciences, transportation, manufacturing, information technology, healthcare, as well as foundational skill efforts (the National Career Readiness Certificate) and regional collaboration initiatives that cut across sectors. He has served as faculty for the Institute for Sustainable Communities and the International Economic Development Council. Prior to joining CAEL he developed 21st Century Apprenticeship models for the Computing Technology Industry Association (CompTIA) and served as the Assistant Director of Workforce Solutions – the business services arm of Chicago's Mayor's Office of Workforce Development. He earned a Bachelor of Science degree from Northwestern University and a Master of Arts from the University of Chicago.

Sarah Miller, Consultant, will provide research and facilitation support for this project. Joining CAEL in 2009, Ms. Miller works with both the private and public sector to assist in workforce and economic initiative

development and program planning. From 2004 until 2009 Ms. Miller was a Business Analyst Consultant for The Public Consulting Group where she worked with independent school districts, school district cooperatives and statewide initiatives to streamline special education planning and Medicaid programming per local and Federal guidelines. During this time Sarah worked with clients around the country to incorporate special education best practice models into administrative plans. Sarah earned her Bachelor's of Science degree from Bowling Green State University.

The research aspect of this project will be guided by **Becky Klein-Collins**, CAEL's **Director of Research**. As CAEL's Director of Research, Ms. Klein-Collins provides oversight and direction to research and evaluation pertaining to CAEL's higher education, public policy, government consulting, Prior Learning Assessment, and Lifelong Learning Account initiatives. In addition to developing the overall research strategy for CAEL, she has conducted research on lifelong learning and workforce development for a wide range of clients on topics such as funding streams, models of collaboration with workforce investment boards, entrepreneurship programs, career ladder models for key industry sectors, science, technology, engineering and math (STEM) improvement strategies; high school internship programs in STEM fields; accelerated learning strategies; and global competencies. Recently, Becky managed an initiative in collaboration with the National Center for Higher Education Management Systems which compiled and published state-by-state data on adult learning and a related policy guide.

Chmura Staff Bio's

Christine Chmura

PhD, President – Prior to founding Chmura Economics & Analytics, Chris was the Chief Economist at Crestar Financial Corporation and prior to that an Associate Economist at the Federal Reserve Bank of Richmond. She received her Ph.D. in Business with a major in Finance and a minor in Economics from Virginia Commonwealth University in Richmond, Virginia. Chris has been in the economic analysis field for 28 years.

Chris currently serves on the **Governor's Economic Advisory Board of the Commonwealth of Virginia** and **the Governor's Commission on Economic Development & Job Creation**. She is a former member of Governor Kaine's **Commission on** Climate Change, the **Virginia Commonwealth University Foundation** Board of Trustees and the **Board of the National Association of** Business Economics.

Leslie Peterson

Leslie Peterson is a Principal of and Director of Operations at Chmura. She brings a passion for rural economic development, a disciplined scientific approach to research and applications, a heightened sense of customer care, and a sharpened desire to straightforwardly communicate. Leslie is currently working toward a Certificate in International Economic Development with Georgia Institute of Technology. One of her main focuses at Chmura is the management of workforce and economic development products. Leslie is a member

of the 2007 LEAD Virginia alumna and serves on **The Governor's Commission on Higher Education Reform, Innovation, and Investment** and the Central Virginia Health Planning Agency Board.

Prior to joining Chmura, Leslie worked in the chemical industry, including ten years at EASTMAN Chemical Company where she served as a world-wide sales coordinator. Her tenure at EASTMAN included participation on the innovation sub team that was instrumental in the firm's achievement of the coveted Malcolm Baldrige Award. She also holds a patent for a commercially available waterborne sulfopolyester hybrid latex polymer. Leslie's undergraduate studies were in Biology and Chemistry at the University of Virginia, Wise where she was a Darden Society member for Honors Students, a member of Sigma Zeta. Leslie completed graduate studies at Clemson University in Marketing and Finance.

Greg Chmura

Senior Statistician & Executive Editor - Greg directs Chmura's survey research which includes design, implementation, and analysis of business and consumer surveys. Greg is editor of our publications which include the quarterlies *Virginia Economic Trends and Ohio Economic Trends*. Further, Greg works with our IT department in software design and testing, documentation, and training. He earned Bachelor's of Science degrees in Mathematics and Physics from Cleveland State University. In further studies he earned a Certificate of Secondary Education. Greg was previously a professor at Cuyahoga Community College and has also worked in actuarial science.

Scope of Work

The Project Team brings a multitude of experiences and expertise to the Advantage Valley and its effort to address employer demand, worker skills, and development of a targeted workforce development strategy. The team will provide the Advantage Valley with the intelligence needed to identify the sectors which represent the most viable economic opportunities, define those target sectors' skills needs, gage the capability of the regional workforce to meet those needs, and assess regional education and training providers' capacity to bridge skills gaps.

Identify Target Industries

In defining the regional economy in the Advantage Valley as it relates to emerging industries, it will be our challenge to determine:

(1) which industry sectors are (and are expected to remain) most important to the region and can be strengthened through additional attention to skills development,

(2) where within the current economy there is a need (active and stated or emerging) for workers with enhanced skills, and

(3) what structures for communication and skills development programming exist so that workforce development strategies can be deployed quickly and efficiently.

To determine the region's key economic driver industries, the project team will first examine existing data sets to analyze the current conditions of the economy and produce an **Industry Analysis** on how specific industry target sectors are performing relative to the national economy. Using this industry analysis to kick-off the project, the project team and Workforce West Virginia (WFWV) will have the most current understanding of the composition of the economy and where stresses in the workforce system exist or will likely occur. The project team research staff will draw on past experience's to evaluate the drivers of the emerging industry sectors identified in the Advantage Valley region. The focus of this analysis will be to lay the groundwork of the overall economic and employment impact to the region and provide a basis for recommendations to make adjustments in how education and training services are delivered.

The Project Team will examine the factors present in the region which indicate a likelihood of attracting and growing employers within particular sectors or clusters. Existing business concentration, transportation access, workforce competencies, education and training programs, natural resources, state incentive priorities, business support infrastructure and other regional features all impact the type of businesses most appropriate for relocation to or growth within the region. For each of the high-potential industry sectors identified, the Team will examine the desirability of those opportunities – the wage levels, benefit practices, career mobility opportunities – as well as the accessibility factors – barriers to entry and likelihood of residents of the region to be able to attain entry and mid-level positions.

Chmura will analyze the predicted growth rates for the occupations, including those expected to benefit the most quickly from the assets in the Advantage Valley. The industry profiles will provide the framework for the identification of high-growth sectors within the region. Some of the elements of the strategic plan review will include a series of interrelated analyses that will enable the Workforce West Virginia (WFWV) and its stakeholders to understand historical trends and these impacts on the fiscal and economic viability of the region.

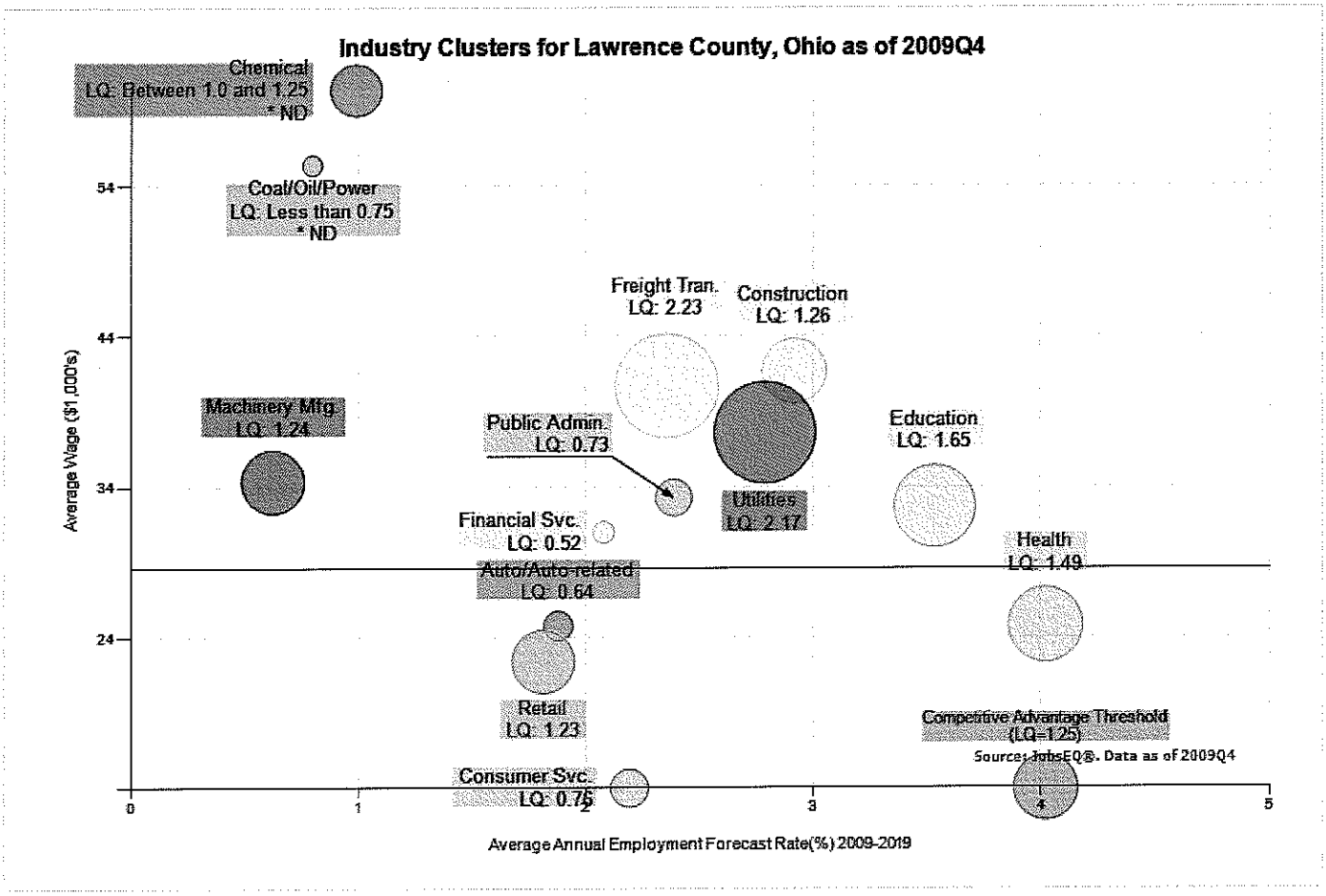
Cluster Analysis

Chmura will provide an in-depth analysis of the composition of skills that are in the occupation growth clusters as well as the targeted industry and occupation clusters for the Advantage Valley. The analysis will review the cluster categories of both occupations (supply) and industry (demand). The analysis will find gaps within the misalignment between these two categories so that the strategic plan recommendations offer a synergy between the supply and demand. Clusters are groups of industries that locate within close proximity to each other because of the resources they share. When clusters reach a certain level of concentration, they can become self-perpetuating. That is, similar industries locate near the cluster to take advantage of resource sharing including labor, suppliers and buyers. From that perspective, identifying the largest clusters in a region (a critical mass of buying, selling, and employment) provide economic developers, workforce practitioners and education and training stewards with industry and occupation targets that ought to be relatively easy to attract and grow when compared with industries and workers that are not already clustered in the region.

Chmura uses the input-output matrix from IMPLANPro®[2] to identify supply-chain relationships among industries in the region. In identifying the clusters in the Advantage Valley, Chmura will apply an expanded region of the Advantage Valley because of the close economic ties of those contiguous counties with counties in West Virginia, Kentucky and Ohio. An example of a cluster analysis for Lawrence, Ohio is provided below—the freight and transportation cluster has a location quotient of 2.23; anything greater than 1.25 means the county has a competitive advantage for those

[2] ImplanPro® is a model widely used by economists to measure regional input-output relationships among industries.

industries making up the cluster. Sector analysis allows a more detailed look into the occupations and skills underpinning that industry cluster.



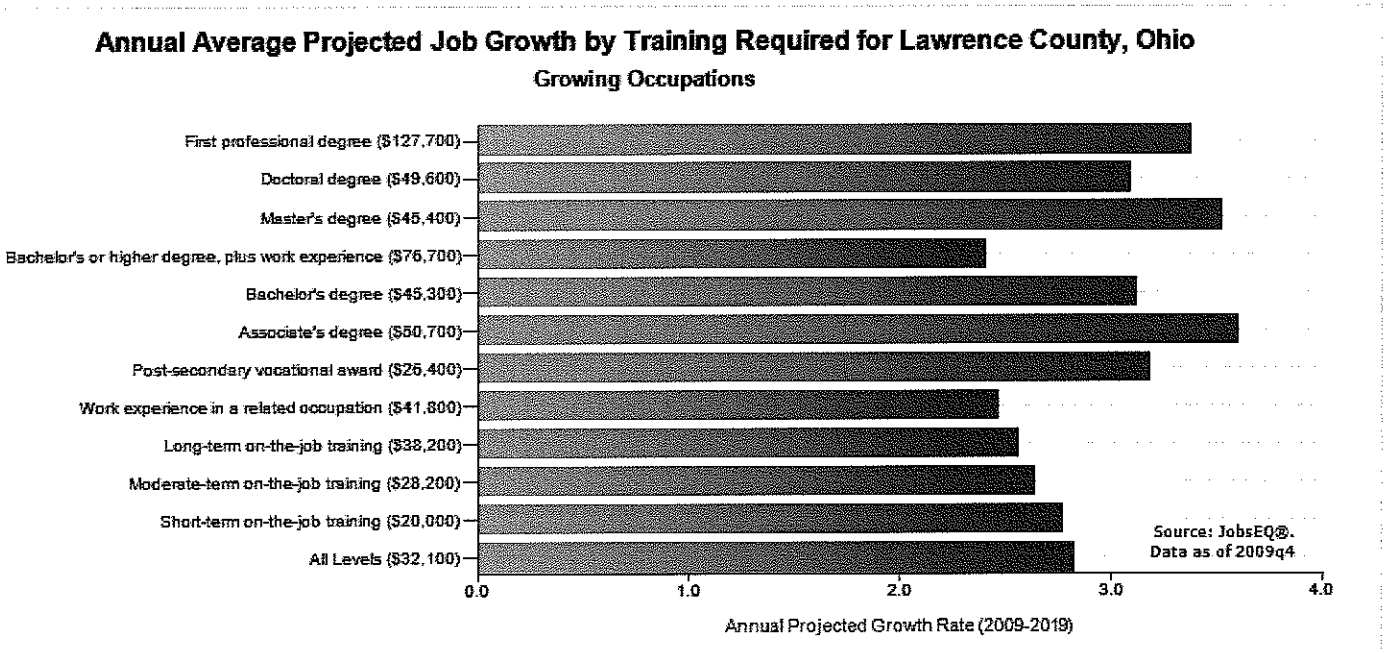
The state of Ohio, along with many other states, applies career clusters to help educators and trainers track changes in skills' upgrades and educational requirements. Chmura will provide an in-depth analysis of the composition of skills that are in the occupation growth clusters as well as the targeted industry and occupation clusters for the Advantage Valley. From this analysis, Chmura will apply its predictive modeling capabilities to forecast a gap analysis for growing and targeted industry cluster-supporting skills sheds that, through strategic alignment, offer the best economic development opportunities for the region. This alignment will take into account the regions assets with regard to talent by including the following information:

- Current mix
- What's in the pipeline from the dislocated workers and the emerging workforce; on-the-job training will be strongly considered for the region's underemployed working population as well as those dislocated workers.
- Infrastructure
    - Natural amenities
    - Education and training capacity
    - Incubator capacity
    - Intellectual property
    - Grants supporting the development of intellectual property and technology-transfer readiness from higher education institutions located in the Advantage Valley footprint

- Competitiveness of the higher education institutions in the region to supply talent into the targeted skills sheds indentified in the baseline analysis of the region's skills supply
- Degree of collaboration between WIBs located in the region
  - Systems integration and collocation of partners and programs
  - Business engagement
  - Review of governance and oversight of WIA implementation in terms of # of enrolled dislocated worker from the identified 453 workers into training and education initiatives and programs—this assessment will be applied against the training and skills shed gaps from the baseline

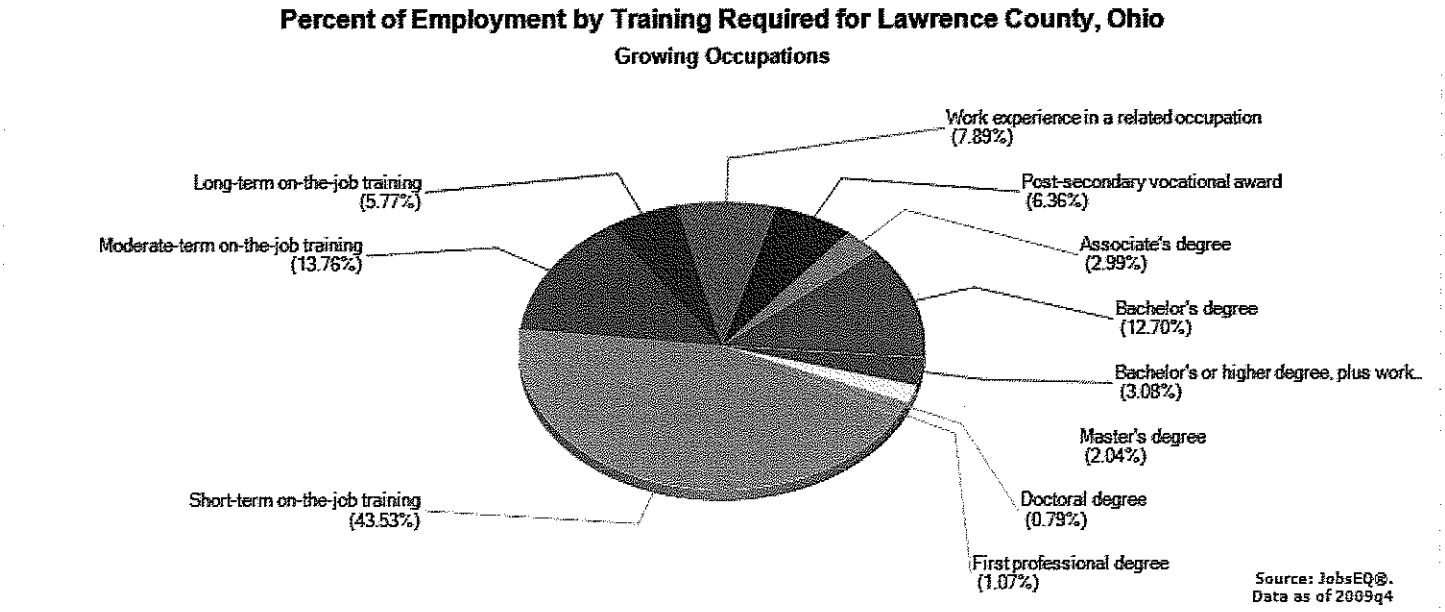
Chmura will work with the local OneStop operators to develop a benchmark for the 453 dislocated workers in the Advantage Valley to determine their profiles for their next-most-likely be-fit occupation based on the growth industries and target markets identified. This analysis will provide a baseline for the jobs available and projected to grow within the industry clusters in the region.

Once the industry analysis is complete and the Project Team and WFWV are in a position to under the job opportunities regionally the education levels required for success in these jobs can be documented. The chart below provides insight into the projected job growth by training requirements for Lawrence, Ohio. These types of analysis will be made available to Advantage Valley in aggregate and by localities such as county, city, MSA, and WIA areas if needed. For Lawrence Ohio, Associate's degrees are forecast to be in high growth for the next 10 years. Chmura will work with the training capacity for the Advantage Valley, compare that capacity to the total demand for training and education in order to help move the meter on workforce development toward gap-closing strategies for the current labor market in the region.



For Lawrence County, Ohio, the projections for associate's degrees in the county show an annual projected growth rate of 3.8% over the next 9 years. Chmura will factor the Advantage Valley economic targets into this projection and make adjustments to accommodate the short- and long-term goals from the region's SIP. In terms of the disciplines for the education projections, Chmura will forecast the 'as is' regional occupations requiring the following education and training to predict the regional skill shed for the 'should be' Advantage Valley as will be defined by the SIP.

- On-the-Job Training
- Emerging workers
- Dislocated workers
- The underemployed workers
- The K-12 pipeline
- Exiting military
- STEM occupations



Identify Skills Shed

Regional skill sheds will be identified based on the geographic commuting patterns of the region as well as the current industry mix and industry targets. Commuting patterns as well as the current industry mix provides information on the number of potential workers as well as their occupations/skills. Expected growth rates in industries and target industries provide a method to estimate occupations/skills needed in the future.

Chmura will provide a regional skill shed that is predictive of a workforce that is in a best-fit alignment toward achieving workforce equilibrium. An example is provided below for Lawrence, Ohio that shows high-level demographic profile Chmura can provide in aggregate and at the county, city, and Workforce Investment Area (WIA) region should the client request this approach.

Demographic Profile[1]

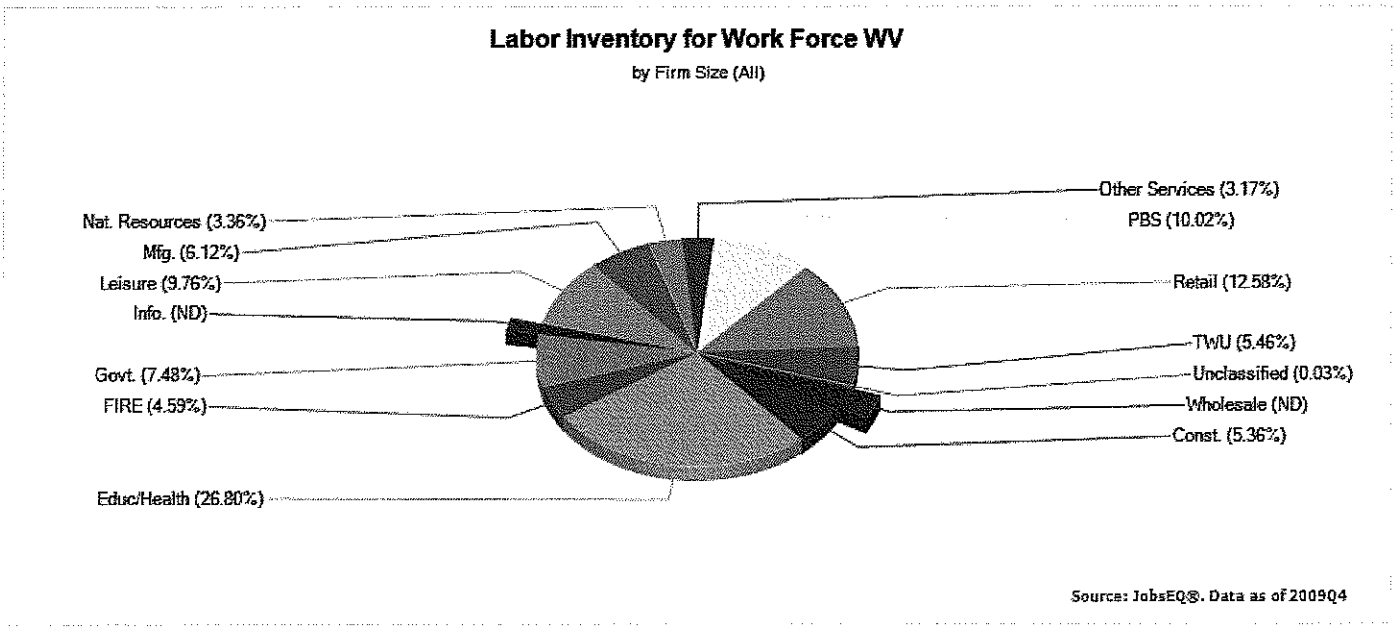
	Percent			Value		
	Lawrence County, Ohio	Kentucky	West Virginia	Lawrence County, Ohio	Kentucky	West Virginia
Demographics						
Population[3]	-	-	-	62,573	4,269,245	1,814,468
Population Annual Average Growth[3]	0.1%	0.7%	0.1%	40	28,382	939
Median Age[4]	-	-	-	37.6	35.9	38.9
18 Years and Over	75.5%	75.4%	77.7%	47,049	3,046,951	1,405,951
65 Years and Over	14.4%	12.5%	15.3%	8,966	504,793	276,895
Race: White	96.6%	90.1%	95.0%	60,169	3,640,889	1,718,777
Race: Black or African American	2.1%	7.3%	3.2%	1,302	295,994	57,232
Race: American Indian and Alaska Native	0.2%	0.2%	0.2%	112	8,616	3,606
Race: Native Hawaiian and Other Pacific Islander	0.0%	0.0%	0.0%	4	1,460	400
Race: Some Other Race	0.1%	0.6%	0.2%	66	22,623	3,107
Race: Asian	0.2%	0.7%	0.5%	117	29,744	9,434
Hispanic or Latino (of any race)	0.6%	1.5%	0.7%	355	59,939	12,279
Economic						
Labor Force (population 16 years and over)	53.2%	60.9%	54.5%	25,978	1,926,731	792,344
Armed Forces Labor Force	0.0%	0.6%	0.1%	8	19,117	1,650
Median Household Income[4]	-	-	-	$29,127	$33,672	$29,696
Poverty Level (of all people)	18.9%	15.8%	17.9%	11,645	621,096	315,794
Mean Commute Time (minutes)	-	-	-	24.1	23.5	26.2
Commute via Public Transportation	0.6%	1.2%	0.8%	134	21,522	5,714
Housing						
Total Housing Units	-	-	-	27,189	1,750,927	844,623
Median House Value (of owner-occupied units)[4]	-	-	-	$69,400	$86,700	$72,800
Homeowner Vacancy	1.7%	1.8%	2.2%	317	20,748	12,243
Rental Vacancy	10.2%	8.7%	9.1%	711	44,268	18,286
Renter-Occupied Housing Units (Percent of Occupied Units)	25.2%	29.2%	24.8%	6,238	465,250	182,782
Occupied Housing Units with No Vehicle Available (Percent of Occupied Units)	8.5%	9.3%	10.8%	2,097	148,691	79,885
Social						
Educational Attainment: High School Graduate or Higher	75.6%	74.1%	75.2%	31,530	1,961,397	927,767
Educational Attainment: Bachelor's Degree or Higher	10.3%	17.1%	14.8%	4,276	453,469	182,960
Educational Attainment: Graduate or Professional Degree	3.8%	6.9%	5.9%	1,598	182,051	73,309
Disabled, Age 16 to 64 (Percent of Total Population)[1]	17.7%	14.8%	14.5%	11,027	597,121	262,514
Foreign Born	0.5%	2.0%	1.1%	334	80,271	19,390
Speak English Less Than Very Well (population 5 yrs and over)	0.6%	1.6%	0.8%	349	58,871	13,550

*Data Source

1. Census 2000, unless noted otherwise
2. ACS 2006-2008, unless noted otherwise
3. Population Estimates 2008, average growth rate since 2000
4. Median values for certain aggregate regions (such as MSAs) may be estimated as the weighted averages of the median values from the composing counties.

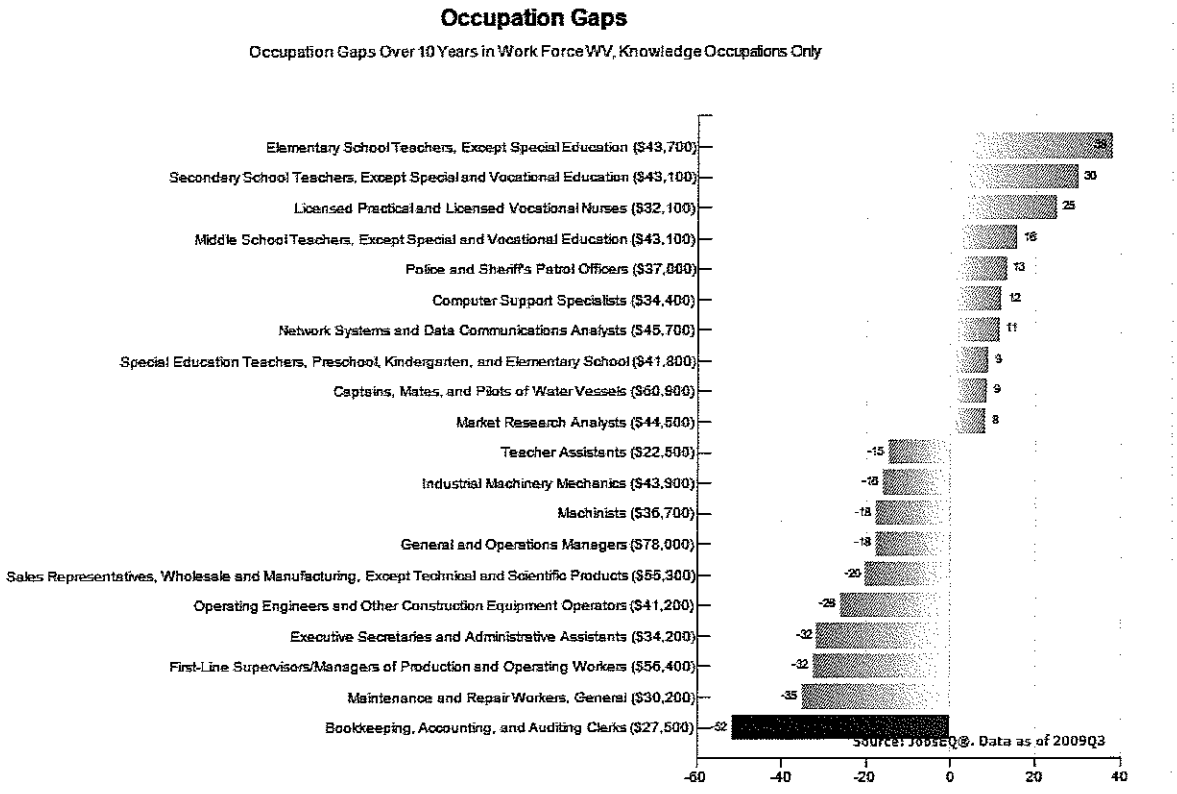
Source: JobsEQ(R).

The inventory of labor for the Workforce WV region is provided in the chart below. The largest concentration of workers are found in the education and health sector that makes up 26.8% of total employment followed by retail sales and manufacturing.



The Advantage Valley has a high unemployment rate from which to identify latent skills and target strategies to utilize dislocated workers for targeted economic development markets. Advantage Valley has an unemployment rate of 8.4% compared with 10.1% for the state of Kentucky and 8.6% for West Virginia.

The Project Team will provide an inventory of the occupation gaps for the Advantage Valley. The following chart shows the annual average gap in the number of knowledge occupation[3] Work Force WV. Based on the chart, Work Force WV

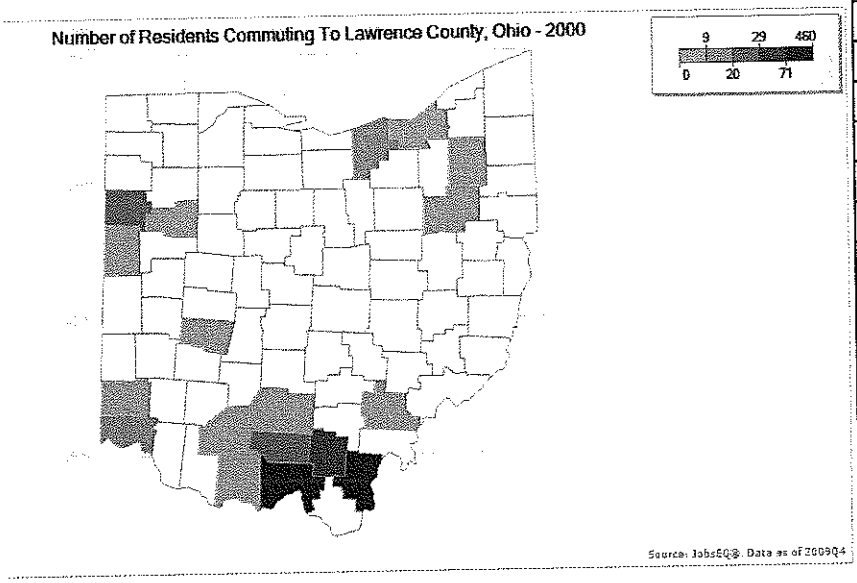


will need to train workers to become school teachers, nurses, and computer support specialists, for example. Analytics such as the occupation gaps will be made available for over 800 occupations in the region.

In addition to the labor market information (LMI) data provided by the states of West Virginia, Ohio, and Kentucky, Chmura will use its patented national database JobsEQ® to assist in the region's education supply and workforce demand for the Advantage Valley. A comprehensive labor shed includes the following components for the Advantage Valley:

- Workforce occupations and skills analysis
- Educational attainment
- Commuting patterns for workers
    - In/out commute
    - Place of work
    - Place of residence

The following map shows the number of residents commuting to Lawrence County, Ohio based of the 2000 Census.



FIPS	Commute To	County Name
39001	3	Adams
39003	6	Allen
39009	8	Athens
39017	8	Butler
39023	7	Clark
39035	6	Cuyahoga
39053	111	Gallia
39061	18	Hamilton
39071	7	Highland
39079	31	Jackson
39087	9714	Lawrence
39093	9	Lorain
39107	5	Mercer
39131	27	Pike
39133	2	Portage
39141	8	Ross
39145	455	Scioto
39151	5	Stark
39161	22	Van Wert

Source: JobsEQ(R).

Defining Skills Needs and Workforce Supply

A key aspect of our approach to workforce development programs is to build on, enhance, and expand existing successful components already operating within the region. Doing so effectively requires a broad and deep understanding of what programs and services are available, how they can be linked, and what gaps exist

in both content and delivery capability. In order to assess strengths and weaknesses of the industries identified and the talent development systems in Advantage Valley, The Project Team will examine how the RIG and its partners are currently structured to deliver workforce services.

CAEL will conduct focus groups and interviews to identify skills challenges and development goals impact on workforce needs. By combining hard quantitative data with qualitative data gained via active engagement with industry, stakeholders, and workers, The Project Team will build a comprehensive picture of perceived and projected workforce shortages, skill gaps, training gaps, and overall workforce requirements of the public sectors that will be prioritized. The result will include, but may not be limited to, the following areas:

- List of sectors that are displacing workers and are expected to continue to (or start to) displace workers over the next five years to identify the regionally available competency base
- List of occupations in greatest demand by all target subsectors and their need for sufficient skills among workers
- List of subsectors that are growing and the skills set that are most important to them
- List of the most critical skill sets and emerging skill sets needed by companies
- Assessment of labor costs, workforce funding, educational issues, and workforce training program needs and gaps.

Over the course of its engagement CAEL will determine the low level skill sets required for successful entry into the targeted sectors. Using the industry led focus group to determine the skills needed for entry level jobs ensures that the region will fully understand what is required for these very important growing jobs and furthermore what is currently lacking in the workforce. Subsequently CAEL will be in a position to provide further recommendations to promote, modify and develop education and training programs that sufficiently prepare the workers of the region for the emerging jobs within the region.

These focus groups will begin to answer the following questions:

- Where do the employment opportunities exist within the target sectors?
- What are the skills required for entry into these jobs, and how do employers validate and screen applicants for those skills?
- What is the level of engagement between education and training providers and the public infrastructure community?
- To what degree is the existing education and training infrastructure equipped to address the identified skill needs of adult learners?
- Does the existing education and training provider community offer instruction and career guidance for skills critical to the area's economy and economic development priorities?

Moreover Chmura will provide quantitative data to supplement the findings via CAEL's industry led focus groups in reference to the educational attainment and output levels within the region. This information will be increasingly useful to inform the alignment of educational offerings based on the skills needed for jobs within the invested areas. The emerging workforce as well as the 'cross-over' basic-skilled workers from

alternative, declining industries, provides a pipeline of basic, entry-level employee skills for some of the occupations sustaining the industries that make up the occupational demands for the region.

Mapping Educational and Skill Development Assets, Resources

CAEL will develop an asset inventory that reflects the region's current capability to deliver quality workforce and education services to employers and job seekers, and to identify and develop the human capital that will enable West Virginia's Advantage Valley economy to support the growth of the target public sectors. The Inventory of Assets will include (but may not be limited to) the following:

- **Workforce Development Assets**: Existing workforce development training programs, training providers, facilities, staff, career guidance resources, apprenticeship programs aligned with the industry and skill areas identified in the PII analysis
- **Educational Assets**: Schools, vocational programs, career exploration resources, internship programs
- **Intermediary Assets**: Employer, industry and business associations, social networks

Drawing from experience with workforce and talent development, as well as experience performing asset mapping for state and local government agencies, college and university systems, and WIRED regions, CAEL will compile an inventory of assets that can inform the development, promotion and success of Advantage Valley's education and training infrastructure and its current and future workforce, and reveal where there are opportunities and needs to develop additional assets. The will be to ensure that the region has the infrastructure to prepare a workforce that is "job-ready" for entry level positions in the identified growing and STEM sectors.

- ***Inventory the Region's Educational Infrastructure***

CAEL will identify and inventory vocational and postsecondary educational programs in the Advantage Valley region, which prepare students for jobs in the target sectors and help to ensure the labor force is prepared to meet industry standards. CAEL will review the current offerings to determine what instruction is available and being utilized, and which industry sub-sectors are most actively supported by deliberate education initiatives.

CAEL will examine course catalogs and official websites for the postsecondary educational institutions that have programs specifically targeted toward building target sector job skills such as critical concentrations or certification programs. This inquiry will focus on programs that are specifically designed to prepare students for employment in the target sectors, and any programs designed to aid in the transition of workers from declining industries to opportunities in the target sectors.

We suggest convening a committee of industry leaders and local leaders in education and training resources available to help drive the conversation on what is lacking in program offerings that are required for positions created through the funding and investment mechanisms. Additionally the group will identify what recruiting measures are taken from the industry side to attract qualified candidates and delve into the discrepancies between what industry perceives their needs to be and what the labor supply is fulfilling.

- ***Inventory Non-Instructional Talent Development Assets***

While the content of targeted instructional offerings is essential to developing a skilled workforce, it is equally important that those offerings are accessible and known to the target populations. Successful talent development initiatives – especially those that target underemployed and transitioning workers – are those which aggressively develop, use and market programs that enhance educational access, student support and career and educational awareness. The inventory will specifically target regional apprenticeship programs that may exist within the identify industry clusters and work with the advisory team to help develop these programs where they may not exist.

CAEL's Adult Learner Focused Institution (ALFI) initiative provides a tested framework through which to assess institutions ability to attract, support and graduate non-traditional learners. Institutional capacities to be assessed may include (but may not be limited to) the following:

- Career Awareness services and information aimed at guiding individuals who are interested in or have aptitude for the particular aerospace sector jobs to be targeted, especially those transitioning from declining industries
- Counseling and Guidance services that assist job seekers with making sound career and education decisions, identifying and leveraging appropriate financial support
- Institutions' programs and policies that work to attract and support non-traditional students such as flexible hours, distance learning, industry partnerships and assessment of prior learning.

Our assessment methodology is based on a set of principles of effectiveness for serving learners and addresses outreach, career planning, financing, use of technology, teaching/learning process, assessment of learning outcomes, strategic partnerships and transitions. CAEL will review the educational institutions (traditional and non-traditional including both private institutions and union apprenticeships) in Advantage Valley West Virginia to determine which principles are already in place and those that need to be developed to support the success of the region's workforce.

Mapping the Pipeline for STEM Talent

STEM generally refers to the science, technology, engineering, and mathematical occupations. There are many different classification systems in use by states and other agencies regarding exactly what occupations fall under the STEM umbrella. Chmura will work with WFWV to identify the best definition for STEM occupations and upskilling needs, based on our extensive research in modeling Virginia's supply and demand of STEM-supporting degrees for Governor Bob McDonnell's Commission on Higher Education, Innovation, and Investment.

A full mapping of the pipeline of potential workers in STEM industries is an ambitious undertaking but one that is necessary to create strategies to debottleneck situations that lead to gaps in supply and demand. The talent pipelines are viewed in two dimensions:

1. K-16 Students
2. The Lifelong Learners

K-16 Student Pipeline

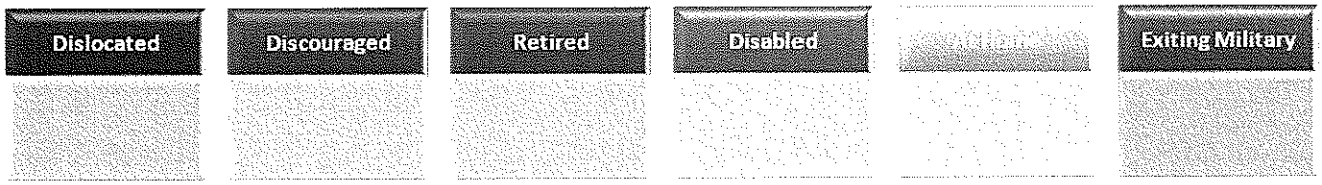
The first dimension considers K-16 and can be likened to a funnel. At their youngest ages, all students are just as likely to work in any of the key regional clusters when they graduate. As they progress in their education, their interests, skills, and abilities cause the number of students likely to obtain a job in a key cluster to decrease. Standards of learning data provide one way to measure a narrowing of the number of students likely to be successful in the K-16 cohort of the total education pipeline. This analysis will provide a high-level understanding of the education pipeline and the 16 major paths that lead into post-secondary education for this initial study.

K-16 Talent Development Pipeline

The Lifelong Learner

The STEM workforce is made up of individuals along a continuum. Opportunities abound for continuous improvements that require individual up-skilling. Incumbent workers in underemployed occupations are at risk for leaving the region or changing jobs. Those individuals not participating in the workforce process are discouraged, dislocated, incarcerated, disabled, retired, and/or have chosen not to work.

Target Population for Up-skilling the Talent Pipeline



Data will be gathered on expected growth in the near-term (1 to 3 years) and 10 years out through the year 2020. Surveys, interviews, and focus groups will also be used to supplement demand information for occupation and skills needs for key businesses in STEM sectors.

In order to accomplish this endeavor, Chmura recommends the following mediums for gathering and disseminating information from and to the citizenry of Advantage Valley:

1. Student surveys (11th and 12th grade and community colleges)
2. Business surveys

Student Surveys

Workforce supply includes the emerging workers within the region. The K-16 and the lifelong learning population pipeline can be modeled to reveal skills shortages and oversupply for the Advantage Valley workforce. The student survey is designed to gauge the students'

- desire to work and live in the region once they enter the workforce,
- likes and dislikes about the region,
- interests and perceived talents,
- awareness of the opportunities for employment in the region.

To better predict the potential workforce supply for the region's current businesses, the Team will design survey instruments to capture the current knowledge by the emerging workforce in the 11th and 12th grade in the high schools in the study region, and in the 2-year community colleges and technical and vocational centers of excellence in the region. Chmura will design the survey instruments and analyze the results. WFWV staff will work with the local K-16 system to administer the surveys and input the results of those survey in electronic form.[4]

SWOT Analysis

Drawing from substantial workforce intermediary experience, The Project Team will convene the advisory team and possibly additional stakeholders in education, economic and workforce development, local government and the private sector to review and validate the findings of the asset map, the examination of occupations and careers, and the career pathways documentation. Following a SWOT format, the advisory group will begin to identify the strengths and weaknesses and begin to establish linkages between regional assets, highlight/validate skill gaps, and determine barriers to regional collaboration on workforce and economic initiatives. These focus groups will also lay the groundwork for future multi-sector collaboration to fill gaps, reduce redundancies in workforce development programming, and aid in the dissemination of final results and strategic action plan.

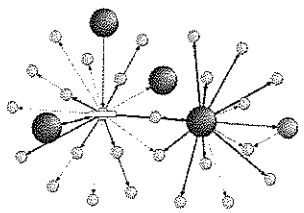
Enhance Stakeholder Involvement

Chmura proposes to apply their social networking tool as an approach to increase the numbers of stakeholders involved in this project. Go to http://chmuraecon.com/marc/ to download a community network report.

JobsEQ Network Analysis Tools (FusionEQ Basic):

The JobsEQ Network Analysis analytic allows users to fully utilize their social network by analyzing and querying the individuals and their linkages within the network. The tool, which is populated by the results of a Chmura stakeholder survey, provides the users an easy to use, web-based interface to perform complex network analysis that would be difficult and time consuming to do by hand.

The names and emails of the most interconnected individuals identified in this survey will be invaluable the Advantage Valley as they begin to implement their strategic plan to close workforce gaps as part of the SIP implementation plan. FusionEQ will be made available to the Workforce WV workforce to help engage the participation in this one-time survey with a more robust tool that allows individuals to see their connections and communicate with each other thereby increasing the response rate and expanding the social network of the Advantage Valley region. An example of a connectivity graph is shown below where each circle identifies an individual and his or her connections to others in the region.



[4] At no extra cost, Chmura can create the survey on-line so that data input is not needed.

Stakeholder and Advisory Team Coordination

As an expert workforce intermediary, CAEL has experience in bringing disparate organizations and interests into productive partnerships focused on common goals. CAEL is able to leverage its credibility in multiple fields—workforce development, higher education, private sector—in order to build successful collaboration and partnership between diverse leaders and stakeholders. CAEL will work throughout the project with Workforce West Virginia to identify and engage key leaders and stakeholders in the region, including state and local workforce boards, chambers of commerce, local government, and post-secondary education, union and labor management organizations, economic developers, and other community stakeholders in order to form a core advisory team that will work with the WFWV and help shape the region's economic and workforce development strategies. Periodically CAEL will recommend adjustments to the group and determine the level of input and participation of leadership team members as well as the frequency of meetings.

CAEL will employ existing and modified survey tools, research methodologies, interview tools, and facilitation techniques to gather information and data from the leadership team. Over the course of its engagement CAEL will collaborate with these stakeholders to define industry cluster targets, validate CAEL's findings and conclusions, and begin to answer the following questions:

- Is the region effectively leveraging available resources to support demand-driven workforce development?
- Is the region effectively using labor market information to guide workforce investment decisions?
- How might institutions more effectively collaborate to achieve greater impact?

Designing a Strategic Implementation Plan

Based on the research completed and workforce needs identified via the focus groups CAEL and Chmura, along with the region and its stakeholders, will work together to develop a strategic implementation plan (SIP). The information about employment needs in the target clusters, concentration of emerging opportunities, education and training stakeholders and their relative strengths, and facilitated collaboration, will inform the regional leadership team of what should be included within the SIP, potentially to include:

- Recommended adjustment of existing educational and/or addition of new skill development opportunities (courses or modules) to enable Advantage Valley to meet the skill needs of public sector jobs
- Development of strategies for information and outreach, career counseling, and other non-instructional features that will enable the recruitment and success of participants
- Resource and referral mechanisms, and linkage of programs and offerings between stakeholder groups
- Referral process into STEM career paths
- Utilization of a variety of learning models including (but not limited to) traditional classroom delivery, on-ling and blended programming, apprenticeships, evaluation of prior experiential learning, mentoring and other approaches.
- Ongoing review of workforce and job development, emerging best practices in skills development

- Designation of a Project Management entity to ensure alignment of the workforce development plan across the regional leadership team of stakeholders
- Where appropriate, development of Process Flow diagrams showing how individuals, education and training institutions, community organizations, WFWV and other stakeholders will interact to leverage their workforce development objectives, job opportunities and maximize the benefit to individuals and the economy.

Assess Funding Support for Strategic Implementation Plan

While the Workforce Investment Act and ARRA funding currently provides the primary means of support for workforce development, skills development and programming are available through a variety of other funding sources. To assess the ***current and future*** levels of investment, funding and resources in the region to support the SIP, CAEL and Chmura will review current potential funding opportunities that can help to further develop and implement SIP within Advantage Valley. CAEL's research would involve:

- Identifying and quantifying federal skills development funding streams available not only though the US Department of Labor but also through the US Departments of Energy, Health and Human Services, Education and Housing and Urban Development.
- Identifying resources available through state-level agencies such as (but not limited to) the Ohio Skills Bank, the Bluegrass State Skills Corporation and the West Virginia Coal Severance program.
- Identification of local, state and national philanthropic investments into the areas identified through the SIP
- Identification of local, state and national philanthropic who invest generally in workforce development (with an emphasis on those who invest in West Virginia and specifically the WFWV coverage area)
- Review of existing providers' education and training programs' investors and research on those funders' historical, stated or potential interest in workforce development
- Review of other state and federal government funding sources aimed at sector initiatives but which might be leveraged to support associated skills development, including the Environmental Protection Agency, the Department of Housing, the Department of Agriculture and others.

The timing of the expenditures will be used to create the pipeline of future projects. Data that are publically available will be downloaded and applied to the overall infrastructure to model current capacity. Chmura and CAEL will work with the project stakeholders to verify the status of the ARRA project in terms of their full integration into the SIP.

Conclusion

Both CAEL and Chmura have the experience and qualifications required to successfully develop a strategic implementation plan for the Workforce West Virginia Advantage Valley region. CAEL and Chmura have substantial

experience across the US assisting states, regions and localities to identify assets, document career pathways, and create and execute workforce development initiatives. CAEL was a technical assistance provider to the US Department of Labor's Workforce Innovations in Regional Economic Development (WIRED) and subsequently as consultant to a number of WIRED regions, we bring both on-the-ground experience as well as a national perspective on the effort to align talent development with economic changes. CAEL and Chmura have conducted and facilitated asset mapping processes with regional consortia, state university systems, workforce investment boards, state and municipal governments, and consortia representing these and other stakeholders in regional talent development. Our response has addressed all the services outlined in the request for proposals: regional asset identification and mapping, technical assistance, SWOT and industry and occupational analysis, stakeholder engagement, strategic plan development, and presentation of project outcomes. We are pleased to offer these services to the WFWV Advantage Valley region.

WORKFORCE WEST VIRGINIA
Cost Proposal/Bid Sheet for RFQ WWV-11-865
(Regional Innovation Grant Consultant)

Name of Proposing Firm or Vendor: Council for Adult and Experiential Learning (CAEL)

Task	Number of Hours	Rate Per Hour	Total Proposed Cost
Entrance Conference (3.4 a.)	40	225	$9,000
Consulting Report including SIP and feasibility studies (3.4 b. 1-8)	200	225	$45,000
Physical and electronic copies of work papers (3.4 c.)	16	225	$3,600
Three (3) on-site consultations (3.4 g.)	24	225	$5,400
Power Point presentation of SIP (3.4.f)	40	225	$9,000
Review or assist in marketing or promotional items (3.4.k)	40	225	$9,000
Monthly status reports (3.4 i)	240	225	$54,000
Analyze analysis software (3.4.l)	160	225	$36,000
Exit Conference (3.4 h.)	40	225	$9,000
Grand Total	**800**	**225**	**$180,000****

*Number of hours provided above are for calculation and comparison purposes only and are not intended to reflect the number of hours projected to complete each task listed.

Note: The hourly rates listed are considered firm for the life of any purchase order that results from this RFQ.

Ancillary expenses (travel, meals, lodging, etc.) are to be included in Total Proposed Cost and proposed hourly rates.

**Bid award will be based on the Grand Total of the Total Proposed Costs

CAEL
The Council for Adult & Experiential Learning

CHMURAECONOMICS&ANALYTICS

Workforce West Virginia – Advantage Valley Regional Innovation Grant

Proposal for Consulting Services

RFQ Number WWV11865

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Program Description

The Council for Adult and Experiential Learning (CAEL), along with our partner Chmura Economics & Analytics (Chmura), is pleased to respond to the Workforce West Virginia Regional Innovation Grant (RIG) Request for Qualifications for Consultant Services. CAEL and Chmura (The Project Team) bring substantial expertise in researching and defining workforce needs and assets and developing strategies to close skills gaps in critical sectors. The comprehensive economic analyses to be provided by Chmura combined with the assessment of institutional assets and workforce program resources to be provided by CAEL will enable the region to clearly identify industry sectors which represent strategic opportunities for increasing employment and wealth in the region and the skill-development assets needed to meet those sectors' human capital needs. The analysis of how the region and its workforce is positioned to develop each potential industry sector (Strengths and Opportunities), and what factors may hinder that development (Weaknesses and Threats) will provide the basis for regional stakeholders in developing a Strategic Implementation Plan (SIP) for workforce and economic development.

Organizational Background

CAEL Background

CAEL is a national non-profit leader in the fields of adult learning and workforce development. Since our founding in 1974 CAEL has been an active partner with government, business, labor community-based organizations, and higher education, addressing employee and learner skill development to promote individual growth and respond to emerging community workforce needs. CAEL has extensive experience building and managing large-scale projects for states, municipalities, regional consortia, and serving as an intermediary in communities for learning and development-related projects. CAEL's experience includes:

- Serving as a Technical Assistance provider to the US Department of Labor and the 13 first-round WIRED grantees, providing assistance with implementation planning, asset mapping, gap analyses, best practice research and program guidance
- Providing consulting, research, facilitation and planning assistance to initiatives based on the WIRED principles including the US DOL Regional Transformation Forums, Regional Innovation Grants in Connecticut and Kentucky, High Growth and Community Based Job Training Grants in Ohio and Arkansas, and local efforts based on WIRED principles in Missouri, Texas, California, North Carolina and California.
- Assisting states and cities to develop blueprints for change in workforce development and lifelong learning aligned with economic development priorities and visions — and then working with colleges and industries, businesses, unions and workforce agencies to implement those changes on a regional and local basis.
- Analyzing the skills demand related to sustainability and Green Jobs priorities and developing strategies to create Green Jobs initiatives in Texas, Colorado and California.
- Documenting Career Lattices in a variety of disciplines including Aerospace, Energy, Healthcare, Life Sciences, Construction, Transportation/Logistics, and Manufacturing for national, state and regional economic development initiatives in Arkansas, Illinois, Ohio, Pennsylvania, North Carolina, and the Delaware Valley Region (Delaware, New Jersey and Pennsylvania), and nationally.

- Providing consulting to cities and states on assessment of employer workforce skill needs and assessment of workforce skill levels.
- Conducting educational inventories, asset maps and gap analyses for communities in support of Regional Innovation Grants and other transformation agenda.
- Designing and managing current programs and consulting projects at over 100 major companies in over 40 states, meeting the education and training needs of a diverse range of workforce populations totaling over 750,000.
- Managing local and regional networks of education and training providers representing a broad range of disciplines, from basic skills and literacy instruction to technical training institutions, colleges, and universities.

With a staff of 39, a subsidiary, EdLink, that manages tuition assistance programs for companies, an independent career advisor network of 75, and a membership of over 700 colleges, universities, corporations, labor unions, associations, and individuals, CAEL is headquartered in Chicago and also maintains offices in Denver, CO, Philadelphia, PA and New York City.

Chmura Background

Chmura Economics & Analytics (Chmura) was founded by Christine Chmura in 1999. The firm is a women and minority owned small business[1] with headquarters in Richmond, Virginia. Chmura currently has ten professional staff members plus temporary support staff. A branch office was opened in Cleveland, Ohio in 2005. The firm specializes in applied economic consulting, quantitative research, and software solutions requiring the integration of advanced economic analysis. Work has included workforce and economic development, site selection, and impact analysis. Chmura publishes Virginia Economic Trends, now in its tenth year, electronic publications and forecasts available via www.chmuraecon.com, and custom publications. Software products include JobsEQ®, currently in widespread use by economic development agencies throughout Virginia and the nation. Chmura's Services Includes:

Economic and Workforce Development - Chmura offers a variety of state-of-the-art tools and consulting services to grasp area workforce inventories, industry conditions and target markets, as well as occupation clusters (career ladders). Our scientific approach, which we often couple with focus groups and interaction with key decision makers, leads to products that are understandable, action-oriented, and measurable. We help educators determine demand for training programs. We survey students, community members, and businesses to gauge the unique regional dynamic interacting with the educational system. Our software identifies the skills and training needs required to move from one occupation to another. Our analysis of regional education providers and industry mix produces comprehensive education gaps: annual deficits or surpluses in the number of graduates from CIP-coded postsecondary education programs.

Research - Chmura analyzes the economic impact of construction projects, as well as the impact of companies and industries. This includes traditional input-output analysis, as well as other quantitative methods to determine the impact on area economy, labor market, and other specific markets. Our focus group sessions help natural leaders emerge while teams work to bring the vital issues to the discussion table. We build sophisticated economic models simulating US, state, and metropolitan areas as well as industry and firm-

[1] SWAM number S-9700.

specific models. Our national model forecasts over 100 indicators, including major economic activities such as GDP, interest rates, housing markets, retail sales, and employment. While we have always provided accurate, timely data, it is our analysis that sets us apart from the competition. Our customized labor market studies include the data you seek, while providing commentary and analysis to help the non-economist understand the story behind the data.

Regional Economic Development - Chmura analyzes the strengths and weaknesses of an area's industry, competitiveness, composition, identifying industry clusters; finding industries that best fit an area's economic development goals, and target marketing. Work in this area includes regional industry analysis. We can also help firms find the best location for their business using MarketsEQ®. We provide consulting services to help businesses find the ideal location. Our approach is research-oriented and results driven. Economic Indicators provide a systematic approach to matching your firm's needs with the best market access for your products and services as well as matching your firm to the skills needed by the local workforce.

Software Solutions - The firm's many years of experience with economic data and analysis has given us the insight to pull together various data sets and create analytics that answer our customer's questions in an efficient manner with easy-to-navigate software. JobsEQ® is a powerful software tool that enables workforce and economic development, education, and job seekers to assess the skills, occupations, and industries that will be in demand or surplus in the future. It provides the information necessary to create a Department of Labor Community Audit. MarketsEQ® helps businesses and economic developers find the ideal location for a particular firm to expand, relocate, or start-up their business.

Project Team Experience

CAEL Experience

The Eastern Connecticut Workforce Investment Board (EWIB) was awarded a Regional Innovation Grant (RIG) from the US Department of Labor to support analysis of emerging economic opportunities for the region (which includes three counties in Connecticut, two counties in Rhode Island, and one county in Massachusetts). CAEL examined data on current and projected economic demand, identified critical skills needs for existing and emerging industries, and inventoried the region's education and training infrastructure to ascertain its ability to produce the workforce necessary to help the region achieve economic success. CAEL's work resulted in a series of recommendations for improvement in the availability of education and training, the ability for the workforce and education system to deliver appropriate skill-development services, and collaboration among regional stakeholders.

John Beauregard
Eastern Connecticut Workforce Investment Board
Executive Director
(860) 859-4100 x20
beauregardj@eLWIB.org

The **City of San Antonio, Texas** has undertaken a broad sustainability effort and engaged CAEL to design a green jobs initiative for the City. CAEL helped the City to define green jobs and document career pathways in green disciplines connected to the broader sustainability initiative; CAEL assessed area education and training providers' capacity to develop green skills; conducted national research on existing programs aimed at developing green skills; and created the design and work plan for the Green Jobs program. After submitting the research and proposed plan, CAEL was engaged by Alamo Colleges to research and develop funding opportunities for implementation of the green jobs initiative. Our work in San Antonio resulted in recommendations which have guided development of San Antonio's Green Jobs strategy including addition of new education and training offerings, formation of the Mayor's Green Jobs leadership council, linking public investment in retrofit and renewable energy with workforce development, creating broad communications and information mechanisms, and identifying fundraising opportunities.

Lawrence Doxsey
Director of Environmental Policy
City of San Antonio, Mission Verde Initiative
(210) 207-1721
w.lawrence.doxsey@sanantonio.gov

In 2008 **the Workforce Investment Board of Southeast Missouri** engaged CAEL to conduct a study of technical education in the 25th senatorial district, which encompasses seven lower-income rural counties. CAEL identified gaps within the current educational delivery system by analyzing demographic and labor data, creating an inventory of schools and Career and Technical Education (CTE) programs in the district, and surveying regional companies for their workforce and skill needs. The resulting report contains an overview of the district and its educational opportunities as well as a set of recommendations for workforce development and government officials outlining measures to bolster access to and expansion of CTE.

Workforce Investment Board of Southeast Missouri
Scott Sattler, Business and Industry Services Manager
(573) 334-0990
scott@job4you.org

CAEL was funded through the **US Department of Labor (DOL)** to develop **CNA and LPN Apprenticeship Programs** that connected to a capstone LPN to RN model based upon experience with the pilot stage of the *Healthcare Career Advancement Initiative* (H-CAP), which addressed the shortage of qualified RNs across the country. CAEL's career ladder model incorporated innovations such as linking activities to the Workforce Investment System, leveraging available (and creating new) student support services, forging additional collaborative partnerships between healthcare and higher education, and encouraging application of best practices in workforce development throughout the healthcare industry. Throughout this project CAEL was able to document opportunities within the Healthcare industry and apply that knowledge to an apprenticeship program which encouraged careers in the industry and contributed to a national dialogue addressing nursing shortages.

Laura Ginsburg
DOL/ETA Office of Apprenticeship Training and Employer Labor Services
202-693-2799

LGinsberg@doleta.gov

Chmura Experience

Chmura's multi-state client base includes economic developers, workforce practitioners, education reformers, firms seeking information and data to make sound decisions, governors and secretariats, chambers of commerce, lobbyists, developers, target marketers, counties and localities, firms and corporations seeking fiscal analysis for project and incentive-based discussions, as well as many other public and private entities with needs for credible information on a timely basis. Chmura served over 100 clients during the past two years with projects and services spanning a multitude of public and private entities. Furthermore, Chmura's online products currently serve over 9,000 international users and subscribers across the nation receive Chmura's weekly and quarterly publications.

Mid-Atlantic Regional Collaborative

Workforce Development System Gap Analysis and Asset Mapping for BRAC-Impacted Areas in the MARC Region

Analysis of the workforce and assets relative to expected industry changes due to Defense Base Realignment and Closure (BRAC) and increased demand for "green" goods and services in the Washington D.C. metropolitan area. A social networking tool was also used to help implement the strategic plan created from this analysis.

Statewide BRAC Project Coordinator
Ms. Susan Baker
Northern Virginia Community College
8333 Little Turnpike
Annandale, Virginia 22003
(703) 403-6983
sbaker@nvcc.edu

Labor Market Analysis 2009/Tourism Study 2010

Tompkins County, New York initially contracted with Chmura to conduct a labor market study in 2008-2009. The region has a high-level of underemployed, highly educated workers. Chmura's study helped the local region refresh its thinking in regard to developing workforce development strategies that more closely dovetailed the economic development target markets and strategies in place in the region.

Ms. Martha Armstrong **(Provided labor market study including focus groups and survey, JobsEQ, Local Business Portal)**
Vice President and Director of Economic Development Planning
Tompkins County Area Development
200 East Buffalo Street, Suite 102A
Ithaca, NY 14850
607.273.0005
marthaa@tcad.org

The Virginia Community College System WIZARD

Chmura created the VCCS student portal "WIZARD" which connects education seekers with the educational options in the Commonwealth of VA—the WIZARD is a one stop shopping information portal that serves the traditional and non-traditional student, parents and jobseekers.

Craig Hendron, PhD. **(Chmura Created WIZARD for the Virginia Community College System – portal for public to access career information, financing for college, etc.)**
Director of Career and Educational Resources
Academic Services & Research
Virginia Community College System
101 N. 14th Street, 15th Floor
Richmond, VA 23219
804.819.4782
cherndon@vccs.edu

Project Team

CAEL Staff Bio's

The overall execution of all project aspects will be led by **Joel Simon, Associate Vice President for Public Sector Services.** Mr. Simon brings 10 years of experience developing new program and funding initiatives for the public workforce investment system and its partners in education, economic development and the private sector. He has developed Green Jobs analyses and plans for initiatives in Texas, Colorado and California. He has provided consulting to multi-stakeholder workforce initiatives in 18 states, and has worked with public and private partnerships to understand and address skills needs in a variety of existing and emerging sectors including aerospace, aviation, energy, life sciences, transportation, manufacturing, information technology, healthcare, as well as foundational skill efforts (the National Career Readiness Certificate) and regional collaboration initiatives that cut across sectors. He has served as faculty for the Institute for Sustainable Communities and the International Economic Development Council. Prior to joining CAEL he developed 21st Century Apprenticeship models for the Computing Technology Industry Association (CompTIA) and served as the Assistant Director of Workforce Solutions – the business services arm of Chicago's Mayor's Office of Workforce Development. He earned a Bachelor of Science degree from Northwestern University and a Master of Arts from the University of Chicago.

Sarah Miller, Consultant, will provide research and facilitation support for this project. Joining CAEL in 2009, Ms. Miller works with both the private and public sector to assist in workforce and economic initiative

development and program planning. From 2004 until 2009 Ms. Miller was a Business Analyst Consultant for The Public Consulting Group where she worked with independent school districts, school district cooperatives and statewide initiatives to streamline special education planning and Medicaid programming per local and Federal guidelines. During this time Sarah worked with clients around the country to incorporate special education best practice models into administrative plans. Sarah earned her Bachelor's of Science degree from Bowling Green State University.

The research aspect of this project will be guided by **Becky Klein-Collins**, CAEL's **Director of Research**. As CAEL's Director of Research, Ms. Klein-Collins provides oversight and direction to research and evaluation pertaining to CAEL's higher education, public policy, government consulting, Prior Learning Assessment, and Lifelong Learning Account initiatives. In addition to developing the overall research strategy for CAEL, she has conducted research on lifelong learning and workforce development for a wide range of clients on topics such as funding streams, models of collaboration with workforce investment boards, entrepreneurship programs, career ladder models for key industry sectors, science, technology, engineering and math (STEM) improvement strategies; high school internship programs in STEM fields; accelerated learning strategies; and global competencies. Recently, Becky managed an initiative in collaboration with the National Center for Higher Education Management Systems which compiled and published state-by-state data on adult learning and a related policy guide.

Chmura Staff Bio's

Christine Chmura

PhD, President – Prior to founding Chmura Economics & Analytics, Chris was the Chief Economist at Crestar Financial Corporation and prior to that an Associate Economist at the Federal Reserve Bank of Richmond. She received her Ph.D. in Business with a major in Finance and a minor in Economics from Virginia Commonwealth University in Richmond, Virginia. Chris has been in the economic analysis field for 28 years.

Chris currently serves on the **Governor's Economic Advisory Board of the Commonwealth of Virginia** and **the Governor's Commission on Economic Development & Job Creation**. She is a former member of Governor Kaine's **Commission on** Climate Change, the **Virginia Commonwealth University Foundation** Board of Trustees and the **Board of the National Association of** Business Economics.

Leslie Peterson

Leslie Peterson is a Principal of and Director of Operations at Chmura. She brings a passion for rural economic development, a disciplined scientific approach to research and applications, a heightened sense of customer care, and a sharpened desire to straightforwardly communicate. Leslie is currently working toward a Certificate in International Economic Development with Georgia Institute of Technology. One of her main focuses at Chmura is the management of workforce and economic development products. Leslie is a member

of the 2007 LEAD Virginia alumna and serves on **The Governor's Commission on Higher Education Reform, Innovation, and Investment** and the Central Virginia Health Planning Agency Board.

Prior to joining Chmura, Leslie worked in the chemical industry, including ten years at EASTMAN Chemical Company where she served as a world-wide sales coordinator. Her tenure at EASTMAN included participation on the innovation sub team that was instrumental in the firm's achievement of the coveted Malcolm Baldrige Award. She also holds a patent for a commercially available waterborne sulfopolyester hybrid latex polymer. Leslie's undergraduate studies were in Biology and Chemistry at the University of Virginia, Wise where she was a Darden Society member for Honors Students, a member of Sigma Zeta. Leslie completed graduate studies at Clemson University in Marketing and Finance.

Greg Chmura

Senior Statistician & Executive Editor - Greg directs Chmura's survey research which includes design, implementation, and analysis of business and consumer surveys. Greg is editor of our publications which include the quarterlies *Virginia Economic Trends and Ohio Economic Trends*. Further, Greg works with our IT department in software design and testing, documentation, and training. He earned Bachelor's of Science degrees in Mathematics and Physics from Cleveland State University. In further studies he earned a Certificate of Secondary Education. Greg was previously a professor at Cuyahoga Community College and has also worked in actuarial science.

Scope of Work

The Project Team brings a multitude of experiences and expertise to the Advantage Valley and its effort to address employer demand, worker skills, and development of a targeted workforce development strategy. The team will provide the Advantage Valley with the intelligence needed to identify the sectors which represent the most viable economic opportunities, define those target sectors' skills needs, gage the capability of the regional workforce to meet those needs, and assess regional education and training providers' capacity to bridge skills gaps.

Identify Target Industries

In defining the regional economy in the Advantage Valley as it relates to emerging industries, it will be our challenge to determine:

(1) which industry sectors are (and are expected to remain) most important to the region and can be strengthened through additional attention to skills development,

(2) where within the current economy there is a need (active and stated or emerging) for workers with enhanced skills, and

(3) what structures for communication and skills development programming exist so that workforce development strategies can be deployed quickly and efficiently.

To determine the region's key economic driver industries, the project team will first examine existing data sets to analyze the current conditions of the economy and produce an **Industry Analysis** on how specific industry target sectors are performing relative to the national economy. Using this industry analysis to kick-off the project, the project team and Workforce West Virginia (WFWV) will have the most current understanding of the composition of the economy and where stresses in the workforce system exist or will likely occur. The project team research staff will draw on past experience's to evaluate the drivers of the emerging industry sectors identified in the Advantage Valley region. The focus of this analysis will be to lay the groundwork of the overall economic and employment impact to the region and provide a basis for recommendations to make adjustments in how education and training services are delivered.

The Project Team will examine the factors present in the region which indicate a likelihood of attracting and growing employers within particular sectors or clusters. Existing business concentration, transportation access, workforce competencies, education and training programs, natural resources, state incentive priorities, business support infrastructure and other regional features all impact the type of businesses most appropriate for relocation to or growth within the region. For each of the high-potential industry sectors identified, the Team will examine the desirability of those opportunities – the wage levels, benefit practices, career mobility opportunities – as well as the accessibility factors – barriers to entry and likelihood of residents of the region to be able to attain entry and mid-level positions.

Chmura will analyze the predicted growth rates for the occupations, including those expected to benefit the most quickly from the assets in the Advantage Valley. The industry profiles will provide the framework for the identification of high-growth sectors within the region. Some of the elements of the strategic plan review will include a series of interrelated analyses that will enable the Workforce West Virginia (WFWV) and its stakeholders to understand historical trends and these impacts on the fiscal and economic viability of the region.

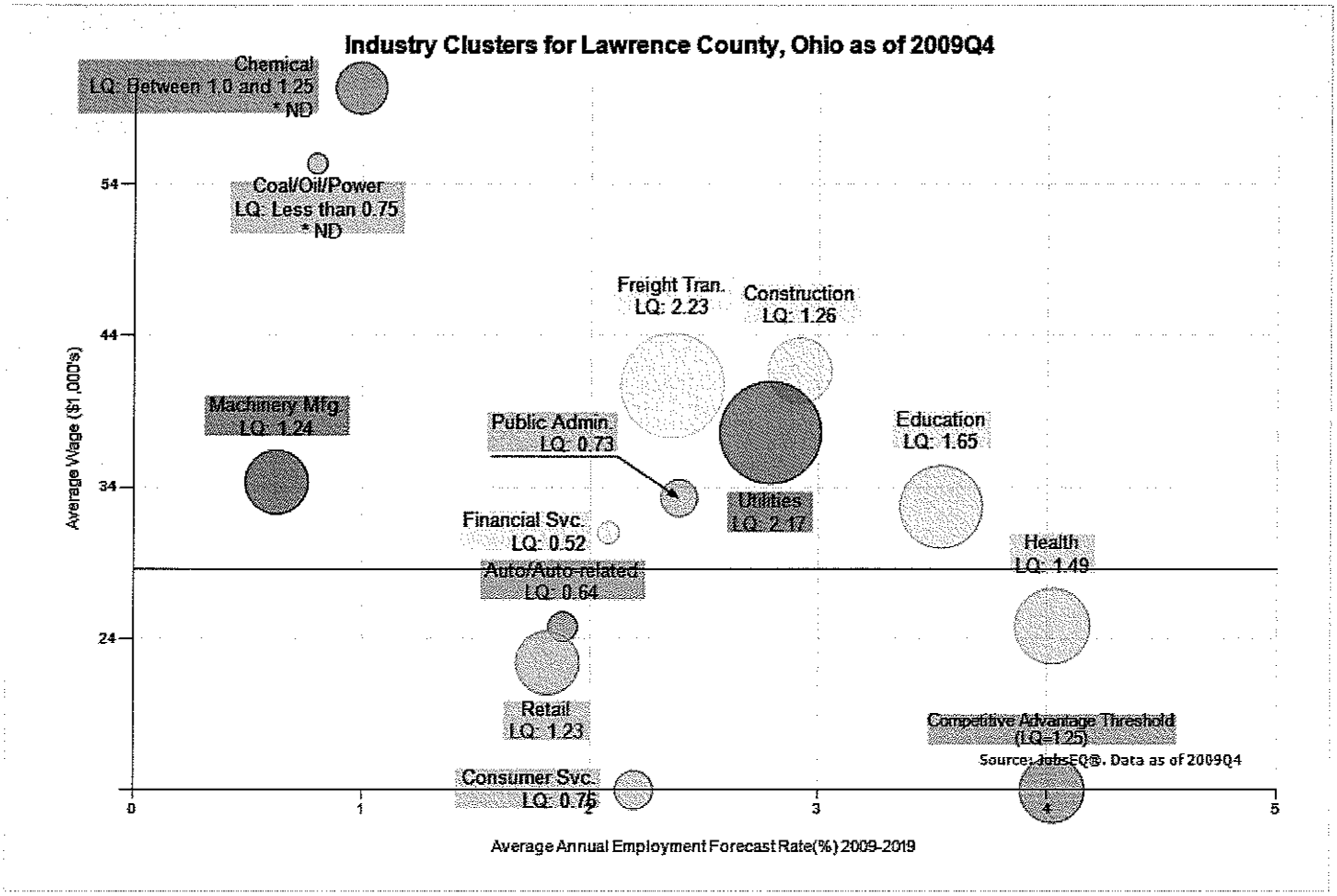
Cluster Analysis

Chmura will provide an in-depth analysis of the composition of skills that are in the occupation growth clusters as well as the targeted industry and occupation clusters for the Advantage Valley. The analysis will review the cluster categories of both occupations (supply) and industry (demand). The analysis will find gaps within the misalignment between these two categories so that the strategic plan recommendations offer a synergy between the supply and demand. Clusters are groups of industries that locate within close proximity to each other because of the resources they share. When clusters reach a certain level of concentration, they can become self-perpetuating. That is, similar industries locate near the cluster to take advantage of resource sharing including labor, suppliers and buyers. From that perspective, identifying the largest clusters in a region (a critical mass of buying, selling, and employment) provide economic developers, workforce practitioners and education and training stewards with industry and occupation targets that ought to be relatively easy to attract and grow when compared with industries and workers that are not already clustered in the region.

Chmura uses the input-output matrix from IMPLANPro®[2] to identify supply-chain relationships among industries in the region. In identifying the clusters in the Advantage Valley, Chmura will apply an expanded region of the Advantage Valley because of the close economic ties of those contiguous counties with counties in West Virginia, Kentucky and Ohio. An example of a cluster analysis for Lawrence, Ohio is provided below—the freight and transportation cluster has a location quotient of 2.23; anything greater than 1.25 means the county has a competitive advantage for those

[2] ImplanPro® is a model widely used by economists to measure regional input-output relationships among industries.

industries making up the cluster. Sector analysis allows a more detailed look into the occupations and skills underpinning that industry cluster.



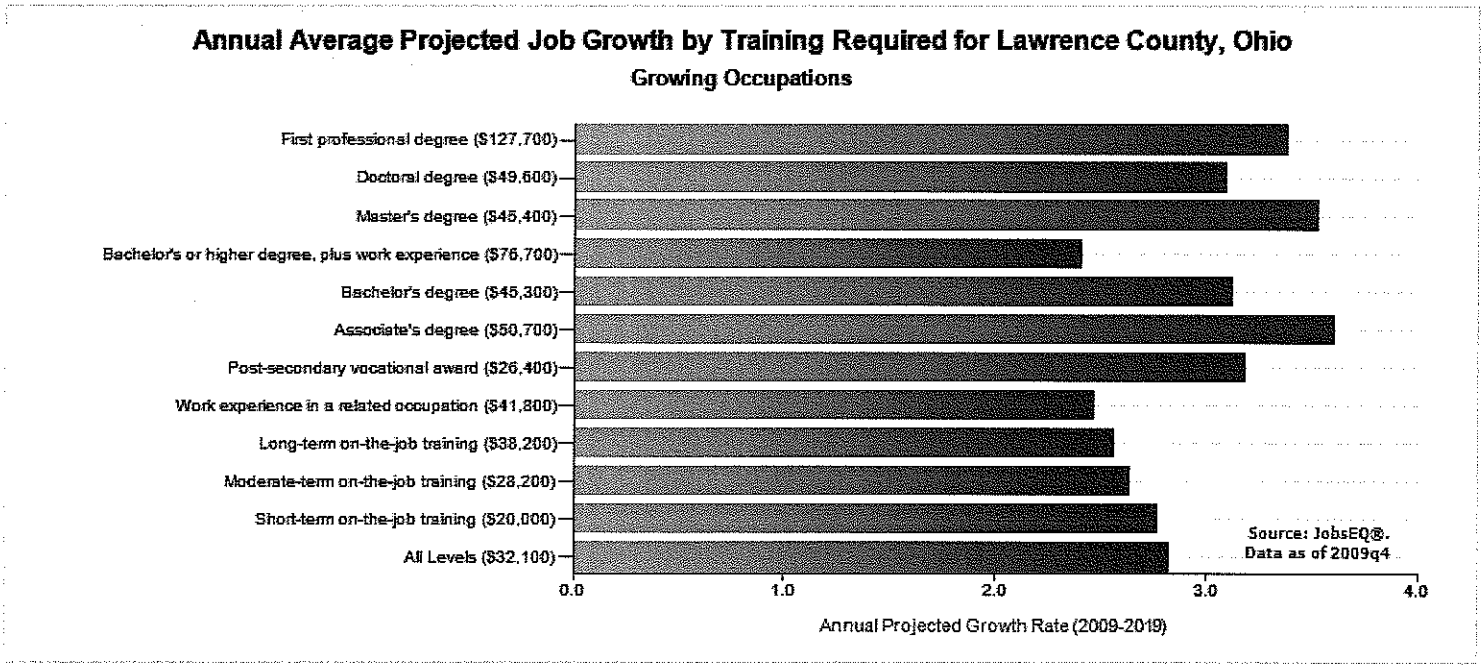
The state of Ohio, along with many other states, applies career clusters to help educators and trainers track changes in skills' upgrades and educational requirements. Chmura will provide an in-depth analysis of the composition of skills that are in the occupation growth clusters as well as the targeted industry and occupation clusters for the Advantage Valley. From this analysis, Chmura will apply its predictive modeling capabilities to forecast a gap analysis for growing and targeted industry cluster-supporting skills sheds that, through strategic alignment, offer the best economic development opportunities for the region. This alignment will take into account the regions assets with regard to talent by including the following information:

- Current mix
- What's in the pipeline from the dislocated workers and the emerging workforce; on-the-job training will be strongly considered for the region's underemployed working population as well as those dislocated workers.
- Infrastructure
    - Natural amenities
    - Education and training capacity
    - Incubator capacity
    - Intellectual property
    - Grants supporting the development of intellectual property and technology-transfer readiness from higher education institutions located in the Advantage Valley footprint

- Competitiveness of the higher education institutions in the region to supply talent into the targeted skills sheds indentified in the baseline analysis of the region's skills supply
- Degree of collaboration between WIBs located in the region
  - Systems integration and collocation of partners and programs
  - Business engagement
  - Review of governance and oversight of WIA implementation in terms of # of enrolled dislocated worker from the identified 453 workers into training and education initiatives and programs—this assessment will be applied against the training and skills shed gaps from the baseline

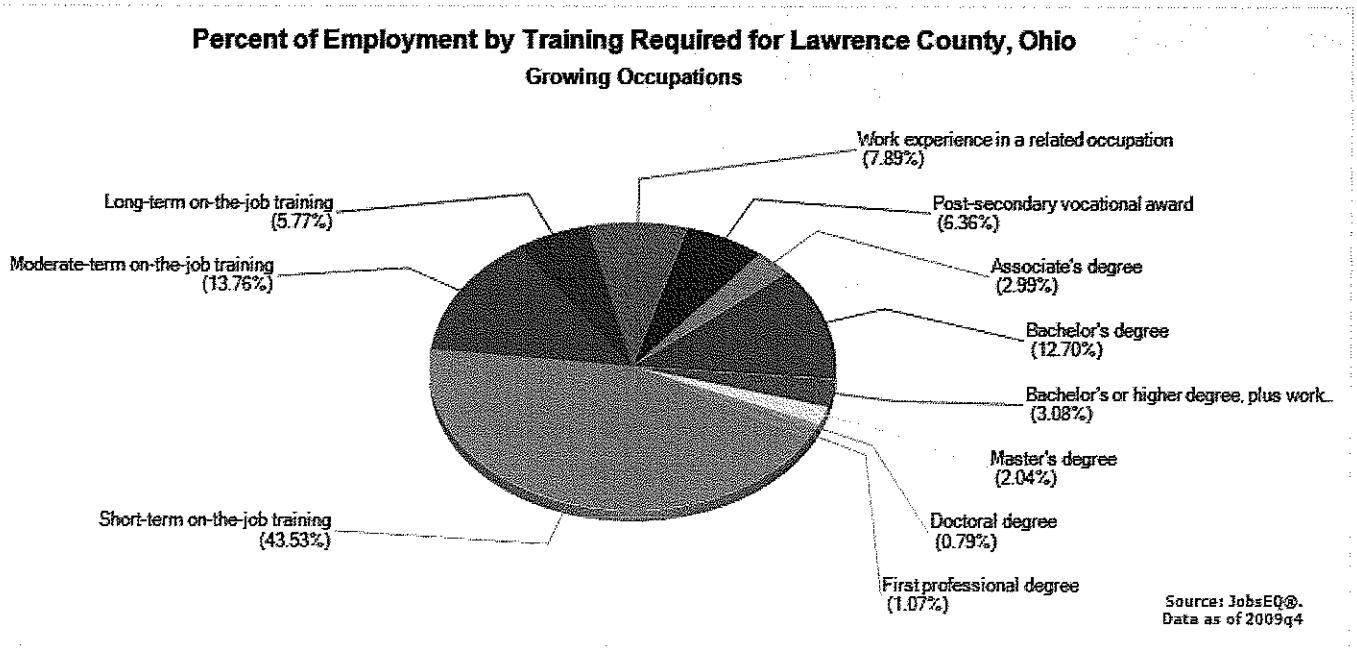
Chmura will work with the local OneStop operators to develop a benchmark for the 453 dislocated workers in the Advantage Valley to determine their profiles for their next-most-likely be-fit occupation based on the growth industries and target markets identified. This analysis will provide a baseline for the jobs available and projected to grow within the industry clusters in the region.

Once the industry analysis is complete and the Project Team and WFWV are in a position to under the job opportunities regionally the education levels required for success in these jobs can be documented. The chart below provides insight into the projected job growth by training requirements for Lawrence, Ohio. These types of analysis will be made available to Advantage Valley in aggregate and by localities such as county, city, MSA, and WIA areas if needed. For Lawrence Ohio, Associate's degrees are forecast to be in high growth for the next 10 years. Chmura will work with the training capacity for the Advantage Valley, compare that capacity to the total demand for training and education in order to help move the meter on workforce development toward gap-closing strategies for the current labor market in the region.



For Lawrence County, Ohio, the projections for associate's degrees in the county show an annual projected growth rate of 3.8% over the next 9 years. Chmura will factor the Advantage Valley economic targets into this projection and make adjustments to accommodate the short- and long-term goals from the region's SIP. In terms of the disciplines for the education projections, Chmura will forecast the 'as is' regional occupations requiring the following education and training to predict the regional skill shed for the 'should be' Advantage Valley as will be defined by the SIP.

- On-the-Job Training
- Emerging workers
- Dislocated workers
- The underemployed workers
- The K-12 pipeline
- Exiting military
- STEM occupations



Identify Skills Shed

Regional skill sheds will be identified based on the geographic commuting patterns of the region as well as the current industry mix and industry targets. Commuting patterns as well as the current industry mix provides information on the number of potential workers as well as their occupations/skills. Expected growth rates in industries and target industries provide a method to estimate occupations/skills needed in the future.

Chmura will provide a regional skill shed that is predictive of a workforce that is in a best-fit alignment toward achieving workforce equilibrium. An example is provided below for Lawrence, Ohio that shows high-level demographic profile Chmura can provide in aggregate and at the county, city, and Workforce Investment Area (WIA) region should the client request this approach.

Demographic Profile[1]

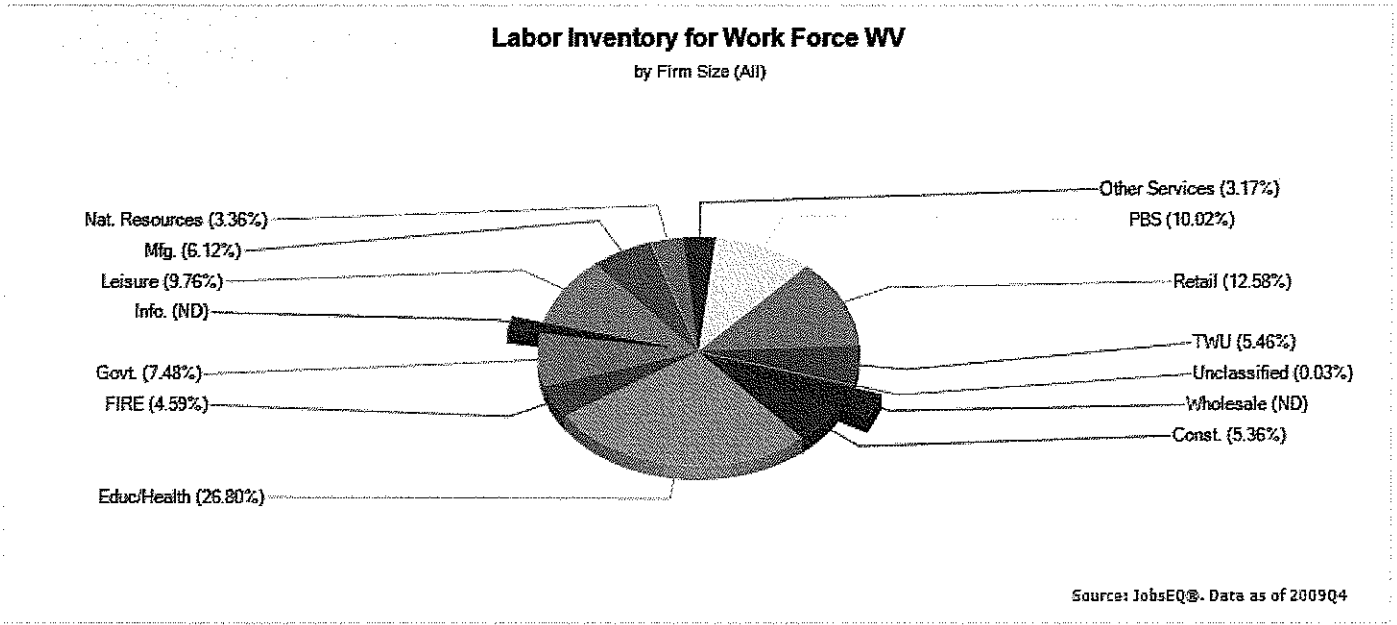
	Percent			Value		
	Lawrence County, Ohio	Kentucky	West Virginia	Lawrence County, Ohio	Kentucky	West Virginia
Demographics						
Population[3]	-	-	-	62,573	4,269,245	1,814,468
Population Annual Average Growth[3]	0.1%	0.7%	0.1%	40	28,382	939
Median Age[4]	-	-	-	37.6	35.9	38.9
18 Years and Over	75.5%	75.4%	77.7%	47,049	3,046,951	1,405,951
65 Years and Over	14.4%	12.5%	15.3%	8,966	504,793	276,895
Race: White	96.6%	90.1%	95.0%	60,169	3,640,889	1,718,777
Race: Black or African American	2.1%	7.3%	3.2%	1,302	295,994	57,232
Race: American Indian and Alaska Native	0.2%	0.2%	0.2%	112	8,616	3,606
Race: Native Hawaiian and Other Pacific Islander	0.0%	0.0%	0.0%	4	1,460	400
Race: Some Other Race	0.1%	0.6%	0.2%	66	22,623	3,107
Race: Asian	0.2%	0.7%	0.5%	117	29,744	9,434
Hispanic or Latino (of any race)	0.6%	1.5%	0.7%	355	59,939	12,279
Economic						
Labor Force (population 16 years and over)	53.2%	60.9%	54.5%	25,978	1,926,731	792,344
Armed Forces Labor Force	0.0%	0.6%	0.1%	8	19,117	1,650
Median Household Income[4]	-	-	-	$29,127	$33,672	$29,696
Poverty Level (of all people)	18.9%	15.8%	17.9%	11,645	621,096	315,794
Mean Commute Time (minutes)	-	-	-	24.1	23.5	26.2
Commute via Public Transportation	0.6%	1.2%	0.8%	134	21,522	5,714
Housing						
Total Housing Units	-	-	-	27,189	1,750,927	844,623
Median House Value (of owner-occupied units)[4]	-	-	-	$69,400	$86,700	$72,800
Homeowner Vacancy	1.7%	1.8%	2.2%	317	20,748	12,243
Rental Vacancy	10.2%	8.7%	9.1%	711	44,268	18,286
Renter-Occupied Housing Units (Percent of Occupied Units)	25.2%	29.2%	24.8%	6,238	465,250	182,782
Occupied Housing Units with No Vehicle Available (Percent of Occupied Units)	8.5%	9.3%	10.8%	2,097	148,691	79,885
Social						
Educational Attainment: High School Graduate or Higher	75.6%	74.1%	75.2%	31,530	1,961,397	927,767
Educational Attainment: Bachelor's Degree or Higher	10.3%	17.1%	14.8%	4,276	453,469	182,960
Educational Attainment: Graduate or Professional Degree	3.8%	6.9%	5.9%	1,598	182,051	73,309
Disabled, Age 16 to 64 (Percent of Total Population)[1]	17.7%	14.8%	14.5%	11,027	597,121	262,514
Foreign Born	0.5%	2.0%	1.1%	334	80,271	19,390
Speak English Less Than Very Well (population 5 yrs and over)	0.6%	1.6%	0.8%	349	58,871	13,550

*Data Source

1. Census 2000, unless noted otherwise
2. ACS 2006-2008, unless noted otherwise
3. Population Estimates 2008, average growth rate since 2000
4. Median values for certain aggregate regions (such as MSAs) may be estimated as the weighted averages of the median values from the composing counties.

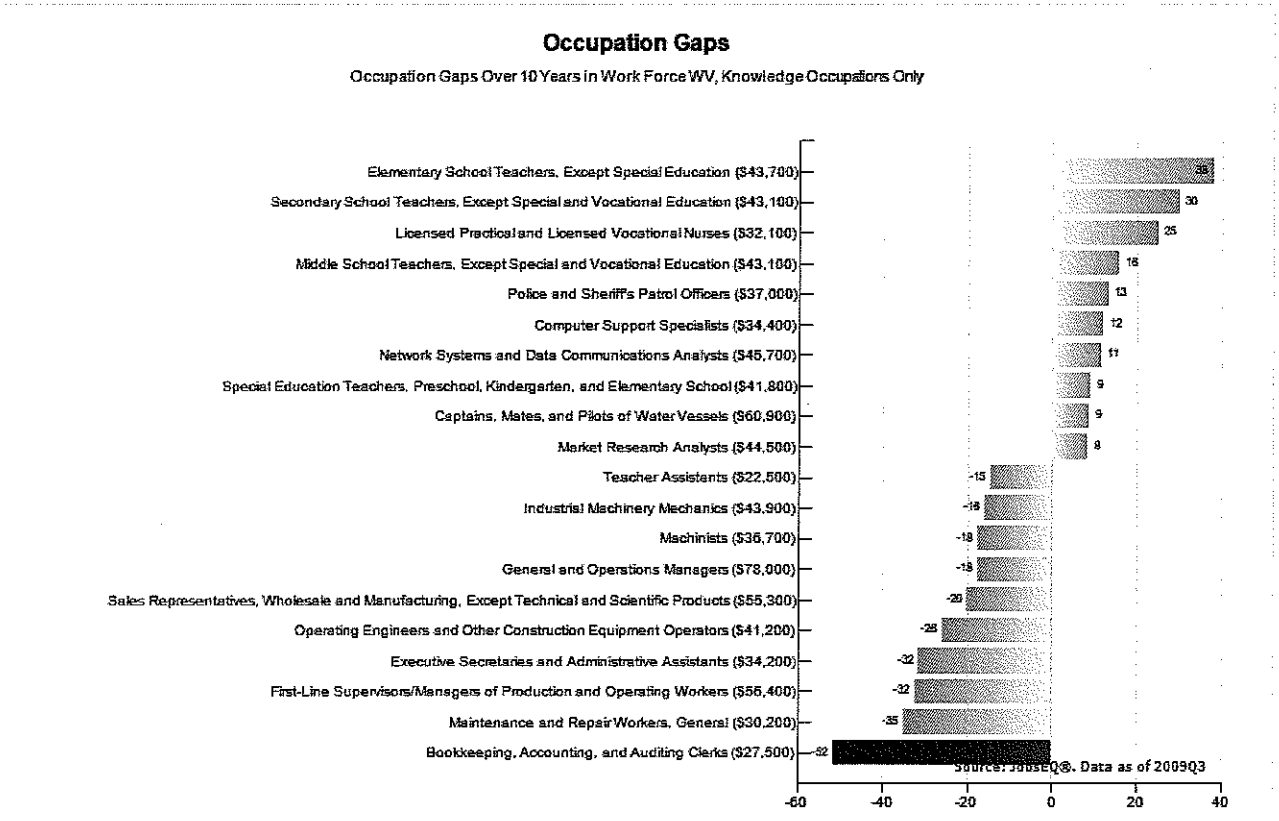
Source: JobsEQ(R).

The inventory of labor for the Workforce WV region is provided in the chart below. The largest concentration of workers are found in the education and health sector that makes up 26.8% of total employment followed by retail sales and manufacturing.



The Advantage Valley has a high unemployment rate from which to identify latent skills and target strategies to utilize dislocated workers for targeted economic development markets. Advantage Valley has an unemployment rate of 8.4% compared with 10.1% for the state of Kentucky and 8.6% for West Virginia.

The Project Team will provide an inventory of the occupation gaps for the Advantage Valley. The following chart shows the annual average gap in the number of knowledge occupation[3] Work Force WV. Based on the chart, Work Force WV

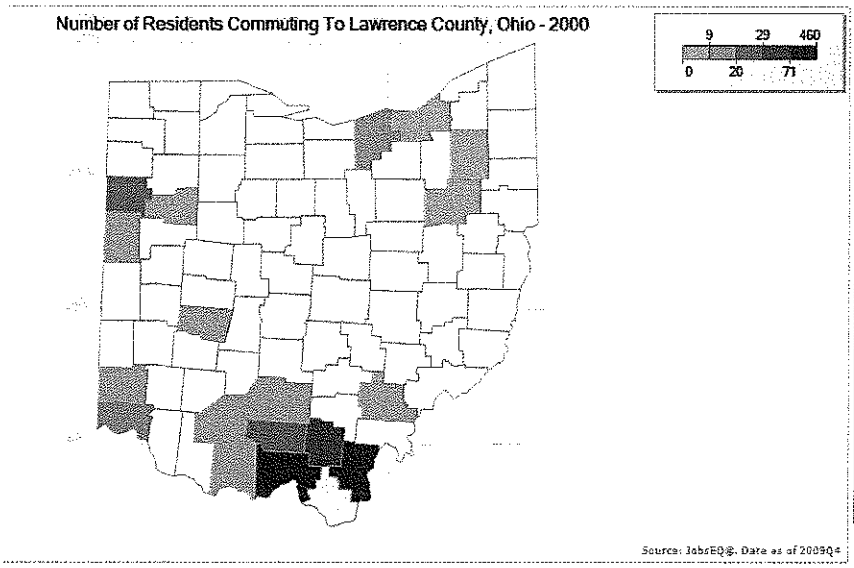


will need to train workers to become school teachers, nurses, and computer support specialists, for example. Analytics such as the occupation gaps will be made available for over 800 occupations in the region.

In addition to the labor market information (LMI) data provided by the states of West Virginia, Ohio, and Kentucky, Chmura will use its patented national database JobsEQ® to assist in the region's education supply and workforce demand for the Advantage Valley. A comprehensive labor shed includes the following components for the Advantage Valley:

- Workforce occupations and skills analysis
- Educational attainment
- Commuting patterns for workers
    - In/out commute
    - Place of work
    - Place of residence

The following map shows the number of residents commuting to Lawrence County, Ohio based of the 2000 Census.



FIPS	Commute To	County Name
39001	3	Adams
39003	6	Allen
39009	8	Athens
39017	8	Butler
39023	7	Clark
39035	6	Cuyahoga
39053	111	Gallia
39061	18	Hamilton
39071	7	Highland
39079	31	Jackson
39087	9714	Lawrence
39093	9	Lorain
39107	5	Mercer
39131	27	Pike
39133	2	Portage
39141	8	Ross
39145	455	Scioto
39151	5	Stark
39161	22	Van Wert

Source: JobsEQ(R).

Defining Skills Needs and Workforce Supply

A key aspect of our approach to workforce development programs is to build on, enhance, and expand existing successful components already operating within the region. Doing so effectively requires a broad and deep understanding of what programs and services are available, how they can be linked, and what gaps exist

in both content and delivery capability. In order to assess strengths and weaknesses of the industries identified and the talent development systems in Advantage Valley, The Project Team will examine how the RIG and its partners are currently structured to deliver workforce services.

CAEL will conduct focus groups and interviews to identify skills challenges and development goals impact on workforce needs. By combining hard quantitative data with qualitative data gained via active engagement with industry, stakeholders, and workers, The Project Team will build a comprehensive picture of perceived and projected workforce shortages, skill gaps, training gaps, and overall workforce requirements of the public sectors that will be prioritized. The result will include, but may not be limited to, the following areas:

- List of sectors that are displacing workers and are expected to continue to (or start to) displace workers over the next five years to identify the regionally available competency base
- List of occupations in greatest demand by all target subsectors and their need for sufficient skills among workers
- List of subsectors that are growing and the skills set that are most important to them
- List of the most critical skill sets and emerging skill sets needed by companies
- Assessment of labor costs, workforce funding, educational issues, and workforce training program needs and gaps.

Over the course of its engagement CAEL will determine the low level skill sets required for successful entry into the targeted sectors. Using the industry led focus group to determine the skills needed for entry level jobs ensures that the region will fully understand what is required for these very important growing jobs and furthermore what is currently lacking in the workforce. Subsequently CAEL will be in a position to provide further recommendations to promote, modify and develop education and training programs that sufficiently prepare the workers of the region for the emerging jobs within the region.

These focus groups will begin to answer the following questions:

- Where do the employment opportunities exist within the target sectors?
- What are the skills required for entry into these jobs, and how do employers validate and screen applicants for those skills?
- What is the level of engagement between education and training providers and the public infrastructure community?
- To what degree is the existing education and training infrastructure equipped to address the identified skill needs of adult learners?
- Does the existing education and training provider community offer instruction and career guidance for skills critical to the area's economy and economic development priorities?

Moreover Chmura will provide quantitative data to supplement the findings via CAEL's industry led focus groups in reference to the educational attainment and output levels within the region. This information will be increasingly useful to inform the alignment of educational offerings based on the skills needed for jobs within the invested areas. The emerging workforce as well as the 'cross-over' basic-skilled workers from

alternative, declining industries, provides a pipeline of basic, entry-level employee skills for some of the occupations sustaining the industries that make up the occupational demands for the region.

Mapping Educational and Skill Development Assets, Resources

CAEL will develop an asset inventory that reflects the region's current capability to deliver quality workforce and education services to employers and job seekers, and to identify and develop the human capital that will enable West Virginia's Advantage Valley economy to support the growth of the target public sectors. The Inventory of Assets will include (but may not be limited to) the following:

- **Workforce Development Assets**: Existing workforce development training programs, training providers, facilities, staff, career guidance resources, apprenticeship programs aligned with the industry and skill areas identified in the PII analysis
- **Educational Assets**: Schools, vocational programs, career exploration resources, internship programs
- **Intermediary Assets**: Employer, industry and business associations, social networks

Drawing from experience with workforce and talent development, as well as experience performing asset mapping for state and local government agencies, college and university systems, and WIRED regions, CAEL will compile an inventory of assets that can inform the development, promotion and success of Advantage Valley's education and training infrastructure and its current and future workforce, and reveal where there are opportunities and needs to develop additional assets. The will be to ensure that the region has the infrastructure to prepare a workforce that is "job-ready" for entry level positions in the identified growing and STEM sectors.

- ***Inventory the Region's Educational Infrastructure***

CAEL will identify and inventory vocational and postsecondary educational programs in the Advantage Valley region, which prepare students for jobs in the target sectors and help to ensure the labor force is prepared to meet industry standards. CAEL will review the current offerings to determine what instruction is available and being utilized, and which industry sub-sectors are most actively supported by deliberate education initiatives.

CAEL will examine course catalogs and official websites for the postsecondary educational institutions that have programs specifically targeted toward building target sector job skills such as critical concentrations or certification programs. This inquiry will focus on programs that are specifically designed to prepare students for employment in the target sectors, and any programs designed to aid in the transition of workers from declining industries to opportunities in the target sectors.

We suggest convening a committee of industry leaders and local leaders in education and training resources available to help drive the conversation on what is lacking in program offerings that are required for positions created through the funding and investment mechanisms. Additionally the group will identify what recruiting measures are taken from the industry side to attract qualified candidates and delve into the discrepancies between what industry perceives their needs to be and what the labor supply is fulfilling.

- ***Inventory Non-Instructional Talent Development Assets***

While the content of targeted instructional offerings is essential to developing a skilled workforce, it is equally important that those offerings are accessible and known to the target populations. Successful talent development initiatives – especially those that target underemployed and transitioning workers – are those which aggressively develop, use and market programs that enhance educational access, student support and career and educational awareness. The inventory will specifically target regional apprenticeship programs that may exist within the identify industry clusters and work with the advisory team to help develop these programs where they may not exist.

CAEL's Adult Learner Focused Institution (ALFI) initiative provides a tested framework through which to assess institutions ability to attract, support and graduate non-traditional learners. Institutional capacities to be assessed may include (but may not be limited to) the following:

- Career Awareness services and information aimed at guiding individuals who are interested in or have aptitude for the particular aerospace sector jobs to be targeted, especially those transitioning from declining industries
- Counseling and Guidance services that assist job seekers with making sound career and education decisions, identifying and leveraging appropriate financial support
- Institutions' programs and policies that work to attract and support non-traditional students such as flexible hours, distance learning, industry partnerships and assessment of prior learning.

Our assessment methodology is based on a set of principles of effectiveness for serving learners and addresses outreach, career planning, financing, use of technology, teaching/learning process, assessment of learning outcomes, strategic partnerships and transitions. CAEL will review the educational institutions (traditional and non-traditional including both private institutions and union apprenticeships) in Advantage Valley West Virginia to determine which principles are already in place and those that need to be developed to support the success of the region's workforce.

Mapping the Pipeline for STEM Talent

STEM generally refers to the science, technology, engineering, and mathematical occupations. There are many different classification systems in use by states and other agencies regarding exactly what occupations fall under the STEM umbrella. Chmura will work with WFWV to identify the best definition for STEM occupations and upskilling needs, based on our extensive research in modeling Virginia's supply and demand of STEM-supporting degrees for Governor Bob McDonnell's Commission on Higher Education, Innovation, and Investment.

A full mapping of the pipeline of potential workers in STEM industries is an ambitious undertaking but one that is necessary to create strategies to debottleneck situations that lead to gaps in supply and demand. The talent pipelines are viewed in two dimensions:

1. K-16 Students
2. The Lifelong Learners

K-16 Student Pipeline

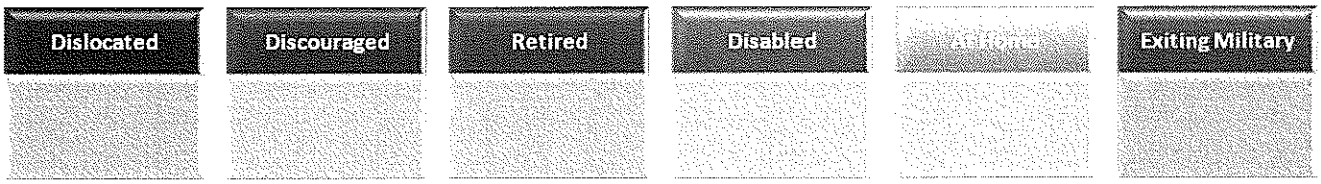
The first dimension considers K-16 and can be likened to a funnel. At their youngest ages, all students are just as likely to work in any of the key regional clusters when they graduate. As they progress in their education, their interests, skills, and abilities cause the number of students likely to obtain a job in a key cluster to decrease. Standards of learning data provide one way to measure a narrowing of the number of students likely to be successful in the K-16 cohort of the total education pipeline. This analysis will provide a high-level understanding of the education pipeline and the 16 major paths that lead into post-secondary education for this initial study.

K-16 Talent Development Pipeline

The Lifelong Learner

The STEM workforce is made up of individuals along a continuum. Opportunities abound for continuous improvements that require individual up-skilling. Incumbent workers in underemployed occupations are at risk for leaving the region or changing jobs. Those individuals not participating in the workforce process are discouraged, dislocated, incarcerated, disabled, retired, and/or have chosen not to work.

Target Population for Up-skilling the Talent Pipeline



Data will be gathered on expected growth in the near-term (1 to 3 years) and 10 years out through the year 2020. Surveys, interviews, and focus groups will also be used to supplement demand information for occupation and skills needs for key businesses in STEM sectors.

In order to accomplish this endeavor, Chmura recommends the following mediums for gathering and disseminating information from and to the citizenry of Advantage Valley:

1. Student surveys (11th and 12th grade and community colleges)
2. Business surveys

Student Surveys

Workforce supply includes the emerging workers within the region. The K-16 and the lifelong learning population pipeline can be modeled to reveal skills shortages and oversupply for the Advantage Valley workforce. The student survey is designed to gauge the students'

- desire to work and live in the region once they enter the workforce,
- likes and dislikes about the region,
- interests and perceived talents,
- awareness of the opportunities for employment in the region.

To better predict the potential workforce supply for the region's current businesses, the Team will design survey instruments to capture the current knowledge by the emerging workforce in the 11th and 12th grade in the high schools in the study region, and in the 2-year community colleges and technical and vocational centers of excellence in the region. Chmura will design the survey instruments and analyze the results. WFWV staff will work with the local K-16 system to administer the surveys and input the results of those survey in electronic form.[4]

SWOT Analysis

Drawing from substantial workforce intermediary experience, The Project Team will convene the advisory team and possibly additional stakeholders in education, economic and workforce development, local government and the private sector to review and validate the findings of the asset map, the examination of occupations and careers, and the career pathways documentation. Following a SWOT format, the advisory group will begin to identify the strengths and weaknesses and begin to establish linkages between regional assets, highlight/validate skill gaps, and determine barriers to regional collaboration on workforce and economic initiatives. These focus groups will also lay the groundwork for future multi-sector collaboration to fill gaps, reduce redundancies in workforce development programming, and aid in the dissemination of final results and strategic action plan.

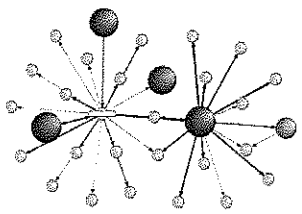
Enhance Stakeholder Involvement

Chmura proposes to apply their social networking tool as an approach to increase the numbers of stakeholders involved in this project. Go to http://chmuraecon.com/marc/ to download a community network report.

JobsEQ Network Analysis Tools (FusionEQ Basic):

The JobsEQ Network Analysis analytic allows users to fully utilize their social network by analyzing and querying the individuals and their linkages within the network. The tool, which is populated by the results of a Chmura stakeholder survey, provides the users an easy to use, web-based interface to perform complex network analysis that would be difficult and time consuming to do by hand.

The names and emails of the most interconnected individuals identified in this survey will be invaluable the Advantage Valley as they begin to implement their strategic plan to close workforce gaps as part of the SIP implementation plan. FusionEQ will be made available to the Workforce WV workforce to help engage the participation in this one-time survey with a more robust tool that allows individuals to see their connections and communicate with each other thereby increasing the response rate and expanding the social network of the Advantage Valley region. An example of a connectivity graph is shown below where each circle identifies an individual and his or her connections to others in the region.



[4] At no extra cost, Chmura can create the survey on-line so that data input is not needed.

Stakeholder and Advisory Team Coordination

As an expert workforce intermediary, CAEL has experience in bringing disparate organizations and interests into productive partnerships focused on common goals. CAEL is able to leverage its credibility in multiple fields—workforce development, higher education, private sector—in order to build successful collaboration and partnership between diverse leaders and stakeholders. CAEL will work throughout the project with Workforce West Virginia to identify and engage key leaders and stakeholders in the region, including state and local workforce boards, chambers of commerce, local government, and post-secondary education, union and labor management organizations, economic developers, and other community stakeholders in order to form a core advisory team that will work with the WFWV and help shape the region's economic and workforce development strategies. Periodically CAEL will recommend adjustments to the group and determine the level of input and participation of leadership team members as well as the frequency of meetings.

CAEL will employ existing and modified survey tools, research methodologies, interview tools, and facilitation techniques to gather information and data from the leadership team. Over the course of its engagement CAEL will collaborate with these stakeholders to define industry cluster targets, validate CAEL's findings and conclusions, and begin to answer the following questions:

- Is the region effectively leveraging available resources to support demand-driven workforce development?
- Is the region effectively using labor market information to guide workforce investment decisions?
- How might institutions more effectively collaborate to achieve greater impact?

Designing a Strategic Implementation Plan

Based on the research completed and workforce needs identified via the focus groups CAEL and Chmura, along with the region and its stakeholders, will work together to develop a strategic implementation plan (SIP). The information about employment needs in the target clusters, concentration of emerging opportunities, education and training stakeholders and their relative strengths, and facilitated collaboration, will inform the regional leadership team of what should be included within the SIP, potentially to include:

- Recommended adjustment of existing educational and/or addition of new skill development opportunities (courses or modules) to enable Advantage Valley to meet the skill needs of public sector jobs
- Development of strategies for information and outreach, career counseling, and other non-instructional features that will enable the recruitment and success of participants
- Resource and referral mechanisms, and linkage of programs and offerings between stakeholder groups
- Referral process into STEM career paths
- Utilization of a variety of learning models including (but not limited to) traditional classroom delivery, on-ling and blended programming, apprenticeships, evaluation of prior experiential learning, mentoring and other approaches.
- Ongoing review of workforce and job development, emerging best practices in skills development

- Designation of a Project Management entity to ensure alignment of the workforce development plan across the regional leadership team of stakeholders
- Where appropriate, development of Process Flow diagrams showing how individuals, education and training institutions, community organizations, WFWV and other stakeholders will interact to leverage their workforce development objectives, job opportunities and maximize the benefit to individuals and the economy.

Assess Funding Support for Strategic Implementation Plan

While the Workforce Investment Act and ARRA funding currently provides the primary means of support for workforce development, skills development and programming are available through a variety of other funding sources. To assess the ***current and future*** levels of investment, funding and resources in the region to support the SIP, CAEL and Chmura will review current potential funding opportunities that can help to further develop and implement SIP within Advantage Valley. CAEL's research would involve:

- Identifying and quantifying federal skills development funding streams available not only though the US Department of Labor but also through the US Departments of Energy, Health and Human Services, Education and Housing and Urban Development.
- Identifying resources available through state-level agencies such as (but not limited to) the Ohio Skills Bank, the Bluegrass State Skills Corporation and the West Virginia Coal Severance program.
- Identification of local, state and national philanthropic investments into the areas identified through the SIP
- Identification of local, state and national philanthropic who invest generally in workforce development (with an emphasis on those who invest in West Virginia and specifically the WFWV coverage area)
- Review of existing providers' education and training programs' investors and research on those funders' historical, stated or potential interest in workforce development
- Review of other state and federal government funding sources aimed at sector initiatives but which might be leveraged to support associated skills development, including the Environmental Protection Agency, the Department of Housing, the Department of Agriculture and others.

The timing of the expenditures will be used to create the pipeline of future projects. Data that are publically available will be downloaded and applied to the overall infrastructure to model current capacity. Chmura and CAEL will work with the project stakeholders to verify the status of the ARRA project in terms of their full integration into the SIP.

Conclusion

Both CAEL and Chmura have the experience and qualifications required to successfully develop a strategic implementation plan for the Workforce West Virginia Advantage Valley region. CAEL and Chmura have substantial

experience across the US assisting states, regions and localities to identify assets, document career pathways, and create and execute workforce development initiatives. CAEL was a technical assistance provider to the US Department of Labor's Workforce Innovations in Regional Economic Development (WIRED) and subsequently as consultant to a number of WIRED regions, we bring both on-the-ground experience as well as a national perspective on the effort to align talent development with economic changes. CAEL and Chmura have conducted and facilitated asset mapping processes with regional consortia, state university systems, workforce investment boards, state and municipal governments, and consortia representing these and other stakeholders in regional talent development. Our response has addressed all the services outlined in the request for proposals: regional asset identification and mapping, technical assistance, SWOT and industry and occupational analysis, stakeholder engagement, strategic plan development, and presentation of project outcomes. We are pleased to offer these services to the WFWV Advantage Valley region.

WORKFORCE WEST VIRGINIA
Cost Proposal/Bid Sheet for RFQ WWV-11-865
(Regional Innovation Grant Consultant)

Name of Proposing Firm or Vendor: Council for Adult and Experiential Learning (CAEL)

Task	Number of Hours	Rate Per Hour	Total Proposed Cost
Entrance Conference (3.4 a.)	40	225	$9,000
Consulting Report including SIP and feasibility studies (3.4 b. 1-8)	200	225	$45,000
Physical and electronic copies of work papers (3.4 c.)	16	225	$3,600
Three (3) on-site consultations (3.4 g.)	24	225	$5,400
Power Point presentation of SIP (3.4.f)	40	225	$9,000
Review or assist in marketing or promotional items (3.4.k)	40	225	$9,000
Monthly status reports (3.4 i)	240	225	$54,000
Analyze analysis software (3.4.l)	160	225	$36,000
Exit Conference (3.4 h.)	40	225	$9,000
Grand Total	**800**	**225**	**$180,000****

*Number of hours provided above are for calculation and comparison purposes only and are not intended to reflect the number of hours projected to complete each task listed.

Note: The hourly rates listed are considered firm for the life of any purchase order that results from this RFQ.

Ancillary expenses (travel, meals, lodging, etc.) are to be included in Total Proposed Cost and proposed hourly rates.

**Bid award will be based on the Grand Total of the Total Proposed Costs