

IN THIS ISSUE

## Building a 21<sup>st</sup> Century, World-Class Workforce

### Features:

- ★ What Economic Developers Should Know About Workforce Development and Community Colleges
- ★ Special Section: Worker Certification
- ★ Preparing Middle and High School Students for Careers in Science and Health



**HELP  
WANTED**





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*Economic Development America* is a quarterly production brought to you as a benefit of a partnership among the Economic Development Administration (EDA), the International Economic Development Council (IEDC) and the National Association of Regional Councils (NARC). The partnership is designed to provide information about economic development practices and programs to economic development practitioners who serve distressed communities throughout the United States. It also provides six telecasts and a monthly e-newsletter, EDA Update. For more information, visit the EDA Web site at [www.eda.gov](http://www.eda.gov).

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# A Message from Secretary of Commerce Carlos Gutierrez

Third quarter GDP announced in October marked 10 consecutive quarters of strong economic growth, proving that President Bush's policies deliver results and maintain the economy's momentum. This resilience has enabled our economy to overcome the many challenges of the past five years, including high energy costs and the recent hurricanes.



As we continue with reconstruction of the Gulf Coast following hurricanes Katrina and Rita, the Department of Commerce has announced the Hurricane Contracting Information Center (HCIC). The HCIC provides a centralized location for information and services available throughout the government, specifically geared to help in the contracting process.

The government contracting process can often be cumbersome – especially for small businesses. The HCIC is designed to assist U.S. businesses interested in helping with the rebuilding efforts in the Gulf Coast region, especially minority- and women-owned and small- and medium-size businesses. It is important to note that the HCIC does not award contracts, but is getting the information in the hands of the business men and women who are leading the rebuilding efforts.

The HCIC can be reached through a hotline (1-888-4USA-DOC) or the Internet ([www.RebuildingTheGulfCoast.gov](http://www.RebuildingTheGulfCoast.gov)), and puts businesses in touch with government procurement experts from 12 agencies who help navigate the contracting process. Since we announced the center on October 11, we have received more than 3,400 phone calls and more than 56,000 visits to our Web site.

As the rebuilding of the Gulf Coast progresses, we must also move forward in fulfilling the President's pro-growth agenda so that American businesses and workers can continue to compete and prosper. These policies will help build a 21st century, world-class workforce, which will be essential for the economic security of our nation and is a major priority for President Bush and the Department of Commerce. I hope that the best practices and articles from workforce development thought leaders featured in this issue of *Economic Development America* will be helpful in your efforts to help us get there.

Thank you for your commitment and service to our country.

Carlos M. Gutierrez  
U.S. Secretary of Commerce



# Talent Development Is a Key Ingredient for Economic Development

Assistant  
Secretary for  
Employment  
and Training  
U.S.  
Department  
of Labor

**By Emily Stover DeRocco** *The following article was adapted from a speech given by Assistant Secretary DeRocco to the Economic Development Administration's Symposium for 21<sup>st</sup> Century Economic Development.*

It is a pleasure to be here today at EDA's Symposium for 21st Century Economic Development.

The theme of the day has obviously been economic development. For those of you who have been in this business for awhile, you know that economic development was always synonymous with targeted tax breaks. Cities and regions would design incentive packages to entice companies to locate operations in their area.

In the static, industrial-based economy of the 20th century, this type of tactical economic development was effective. But the world has changed. We are no longer competing against one another, but against countries from across the globe.

And this new economy requires a new strategic approach to economic development. It means that we must establish, through policy and actions, the conditions that best encourage innovation, entrepreneurship, and economic growth.

The Council on Competitiveness, in their groundbreaking report *Innovate America*, identified the three key areas needed for economic growth. The first is infrastructure. Do regions have the transportation system to support a robust economy and do they have the technology assets required to enable success?

The second is investment. Is the capital available to support the risk required in today's economy? Are the government's policies designed to encourage capital risk-taking or restrict it?

Together, these two areas provide the basic tools required for economic development. But they are also useless without the third and, in my opinion, most important component of an economic strategy, the development of human talent.

It is the development and use of talent that will ultimately decide the fate of the United States and every other country in the global economy. To stay ahead of the global competition, we must look at and improve the way we develop our talent. And that means bringing reform to our education and training systems.

Education, as all of you know, is a locally controlled activity in this country. Schools vary considerably across districts and states. This diversity, though, is part of our strength. Communities on the East Coast are not like communities in the Great Plains and our schools should reflect that.

However, regardless of where you live or what you expect to do in life, there are foundational skills in math, reading, and science that are critical to success. That is the basis for the No Child Left Behind Act and the President's new High School Initiative.

But while much of the focus in government, in the media, and by ordinary Americans remains on grade school and high school education, it is really what happens after high school that determines the opportunities available to individuals. It is the post-high school education and training where talent development occurs.

As the Assistant Secretary of Labor for Employment and Training, it is my job to oversee the public investment in workforce preparation—and our focus is on post-secondary education and training. Each year, the government invests over \$15 billion in job training services that are delivered through a nationwide network of 3,500 career centers.

This system was created back in 1933 as one of the many New Deal programs, and, in too many areas, it still reflects its roots as a social services program. For example, the process of helping an individual is still more important than the results of our services. This is evident from the language of the law, which describes in painstaking detail how and in what order services should be delivered.



# It is at the regional level where talent development can help to spur economic growth and provide hope and opportunity to regions that have lost both.

This situation leads rather naturally to a system where employers are regarded merely as the end of the process rather than customers or even partners. This mentality must be overcome if the public's investment in talent development has any chance of showing a positive return.

The Administration has moved to reform the system by creating the High Growth Job Training Initiative. By partnering with employers and engaging educational institutions, the High Growth Initiative demonstrates to our system how to put employers back in charge of talent development.

Through the process of engaging employers, it became clear that many face the same challenge; they are unable to find the workers they need to fill their available jobs. It isn't that there are not people looking for work, but rather that those people do not possess the skills that are needed in today's workplace.

The best example of this can be found in the manufacturing industry. The first Friday of each month we learn that manufacturing has dropped several thousand more jobs. Yet at the same time, the Purchasing Managers Index reports that manufacturing activity is expanding and employers are planning to hire additional workers.

That is because manufacturing is in the midst of an historic transformation. Since Henry Ford invented the assembly line, good jobs were available in manufacturing for unskilled labor. But in the last five years, those jobs have been replaced by robots and automated systems. As a result, the jobs that are now available require individuals with the skills to create, program and repair those automated systems. In effect, jobs in manufacturing are now available only to skilled labor.

Of course, it isn't just manufacturing. Energy, construction and transportation all are seeing their jobs change rapidly while new industries like biotechnology are growing and rapidly hiring.

That is why a cornerstone of the High Growth Job Training Initiative is to engage educational institutions, especially community colleges. Individuals must now learn more specialized skills to work in any industry and they must do so prior to employment because traditional employer-based training programs are a thing of the past.

The success of the High Growth Initiative was not missed by the President. Recognizing that many of the job opportunities available in the 21st century economy begin with an associate's degree – and building on the model of partnerships among educators, employers and the workforce system – the President created a similar but new initiative called Community-Based Job Training Grants.

These grants are designed to improve the training available at community colleges by connecting employers with the schools to provide more and better teachers, state of the art equipment, and a greater capacity to teach more students. In short, they will improve the ability of our community colleges to develop talent.

With these two initiatives well established, it is now time to move talent development into a central role in the economy. This, of course, cannot be accomplished at the national level.

The U. S. national economy is actually the collection and integration of many regional economies. It is at the regional level where economic development is implemented and where the effects of economic shocks are felt. And it is at the regional level where talent development can help to spur economic growth and provide hope and opportunity to regions that have lost both.

Examples of such areas would be those most affected by global trade. Dr. Gary Green from Forsyth Tech Community College in North Carolina likes to say that back in the 1980s, North Carolina's economy was well diversified. They had textiles, tobacco, and furniture. Well, 20 years later, all three are nearly gone from the state.

Some areas of North Carolina responded to the challenge and are now centers for innovation. What they and other successful areas have in common are a strong group of talented professionals, usually centered around a university, that incubate new industries. This happened in Silicon Valley 20 years ago around Stanford and Berkeley where information technology flourished, and more recently in the Research Triangle of North Carolina where Duke, UNC and others spawned the biotech industry.

For each example of a successful transition though, there are numerous other areas that were not so lucky. Much of the Upper Midwest has yet to recover from the decline in the steel and auto industries. Areas of the Carolinas are in similar positions after the textile companies moved overseas. What each of these areas has in common is that a large percentage of their talent base possesses skills that are now obsolete.

The government has programs such as Trade Adjustment Assistance that help to meet the short term needs of such individuals, but no program or initiative exists that encourages and assists in the building of a new economy.

Of course, there is another area that is now the focus of building and rebuilding and that is the Gulf Coast. For a number of reasons, the city of New Orleans has seen decreasing economic activity and the departure of its most talented citizens. And now what remained of its infrastructure has been destroyed.



It will take years for the Gulf Coast to reestablish a regional economy, but through the integration of talent development, there exists an opportunity to build a new economy.

### Demand-Driven Electronic Tools and Databases

Reformation of a decades-old delivery system presents a significant challenge within the federal-state-local system. The Employment and Training Administration serves as an information clearinghouse, facilitating peer-to-peer contact and supporting the dissemination of "promising practices."

Several national electronic tools are housed with the Career One-Stop Portal, [www.careeronestop.org](http://www.careeronestop.org), which provides a single point of access to information as well as services related to job markets, occupations, and the workforce system itself. For example, at America's Career Info Net ([www.careerinfonet.org](http://www.careerinfonet.org)), individuals can make informed career decisions on training and occupations.

Emulation of peers is part of the policy architecture. ETA initiated the National Business Learning Partnership (NBLP) in October 2003 to accelerate the transition by local workforce areas to the attributes of a demand-driven system. This peer-to-peer learning relationship matched 19 local workforce areas (mentors) that have exceeded their performance standards while delivering effective business services with 25 local sites (protégés) that wish to improve their performance by engaging businesses more successfully.

ETA, along with the National Association of Workforce Boards and the National Association of State Workforce Agencies, has created an online tool and communication device called Workforce3 One. The Workforce3 One integrated Web site ([www.workforce3one.org](http://www.workforce3one.org)) offers the public workforce system, employers, economic development professionals, and education professionals a workspace designed to create and support a demand-driven community that responds directly to business needs and prepares workers for good jobs in the fastest-growing careers. The partners encourage readers of *Economic Development America* to register on the Web site and join the conversation.

Lower Mississippi received a boost to its economy when gaming was introduced 15 years ago as an alternative to Las Vegas and Atlantic City. But now with gambling available in communities all across the country and with the tourism infrastructure destroyed, there is no anchor for the regional economy.

The challenges brought on by this devastation are only magnified by the fact that Mississippi and Louisiana were ranked 49th and 50th in the nation in educational attainment.

It will take years for the Gulf Coast to reestablish a regional economy, but through the integration of talent development, there exists an opportunity to build a new economy. This new economy would include skilled workers and the industries that they attract and would offer opportunity for the hundreds of thousands of residents in the region that have known economic setback and despair.

Each of these initiatives that I have discussed today – High Growth, Community Colleges, and Regional Economies – are designed not as new programs, but as catalysts for change. They are meant to demonstrate how talent development can drive economic growth and consequently, how the \$15 billion we annually invest should actually be spent.

We are making headway on this front and I believe that many in the system are seeking to do similar things. Unfortunately, there still remains one roadblock to ultimate success and that is the system itself. Born out of the New Deal and incrementally expanded over the years, the workforce system remains a maze of bureaucracy and red tape. The most innovative and determined communities and states can make the system effective, but the question remains why such effort is required.

The Administration has had major job training reform legislation before Congress for two and a half years but has been unable to force action in the Senate. We will continue to forge ahead though. Through initiatives like the ones I have discussed today, we will demonstrate that the workforce system can and should do better and that talent development must be an integral part of any economic strategy. ★★★

# Myths and Action:

## What Economic Developers Must Know About Workforce Development and Community Colleges

By Mary Crabbe Gershwin, Ph.D. In 2005, the educational attainment of the American workforce is stagnant. College participation trends in the United States, when compared with trends in the global labor force, reveal the quiet emergence of a second-class workforce that may threaten our productivity, our economic vitality, our quality of life and our international competitiveness.

Yet, compounding this urgency are persistent myths – about the quality of our current workforce, the demand for skilled workers, the imperative for lifelong learning, and the public benefit accrued from investments in a skilled workforce. These myths have led many elected officials and community leaders to develop a myopic focus on K-12 education, viewing investments in community colleges and workforce development for adults as a nice thing to do but certainly not an economic imperative.

Perhaps more than any other community of leaders, economic developers cannot afford to be consoled by these myths or to focus exclusively on K-12 education reform. Leaders in economic development need clear facts about the trends and challenges in workforce development in the communities they serve. They need strategies that support adult preparation as a tool that produces results, and they need to be armed with information to act, including reliable information about the capacity and challenges of key institutions such as community colleges.

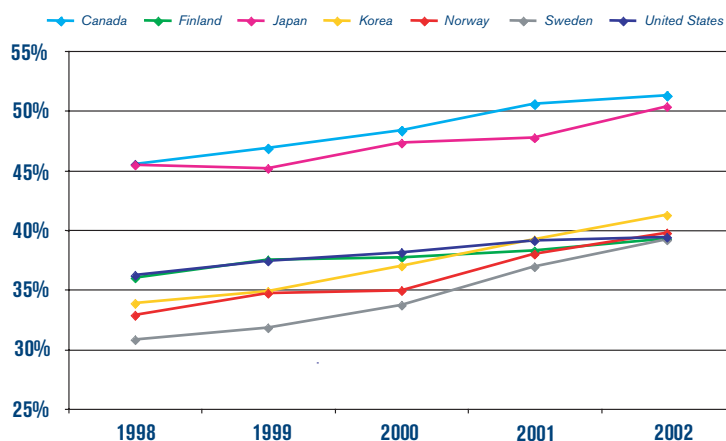
### Workforce development myths and facts

**Myth:** *The educational attainment of the American workforce is steadily on the rise.*

**Fact:** *Educational attainment is stagnant at best, and may be in decline.*

The U.S. no longer leads the world in the percentage of its population with college degrees. For the population aged 25 to 34 the U.S. currently ranks fifth in the percentage of the younger population (aged 25 to 34) with college degrees.<sup>1</sup>

Trends in Educational Attainment of the U.S. Population Relative to the Most Educated Countries - Percent of the Young Workforce (25 to 34 Year Olds) with an Associates Degree or Higher



Source: Organization for Economic Co-operation and Development (OECD)

If current trends are not addressed, the American workforce will be less educated in 2020 than it is today. According to Patrick Kelly, Vice President of the National Center for Higher Education Management Systems, by 2020 an additional seven million 25- to 64-year-olds will have joined the workforce who have less than a high school education.

**Implication for economic development: The U.S. workforce is losing its edge in the international marketplace for skills.**

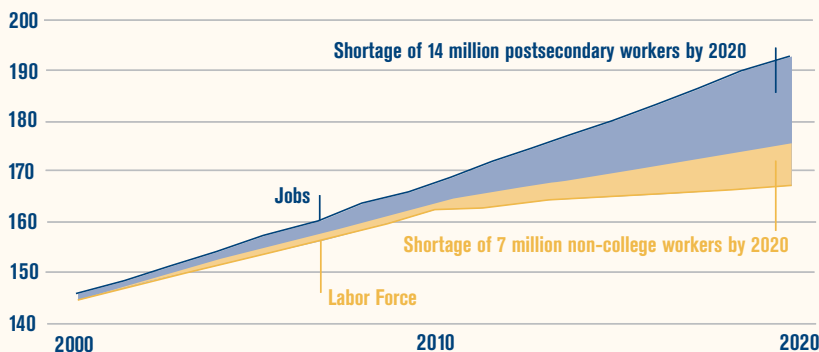
**Myth:** *Given trends in outsourcing and increased productivity, the current supply of skilled workers is adequate to meet employers' demands.*

**Fact:** *Jobs requiring a college education are outpacing the supply of workers with undergraduate degrees, setting the stage for a significant labor shortage.*



## Labor Force Growth Is Not Expected to Keep Pace with Job Growth through 2020

Millions of jobs/workers. Labor force data have been adjusted to reflect multiple job holdings



Authors' analysis and adaptation of data from Ellword (2001), Fulerton and Toossi (2001), and Hecker (2001).

Changes in technology and in how firms operate have resulted in increased demand for skilled workers. For the past 20 years, the dramatic growth of the native-born workforce has supplied employers with an ever-expanding source of new workers. That period of growth is over. The native-born workforce grew by 44 percent over the last 20 years; it will not grow at all over the next 20 years. At the same time, jobs requiring at least a college degree will continue to grow at a brisk clip – increasing by more than 40 percent – while the growth of low-skilled jobs will slow.<sup>2</sup>

According to economist Anthony Carnevale, the mismatch between worker skills and employer demands will produce shortages of workers with college-level skills projected to reach 12 to 14 million in 2020.<sup>3</sup>

**Implication: Left unaddressed, the current stagnation of educational levels will mean that firms cannot meet their growing need for skilled workers.**

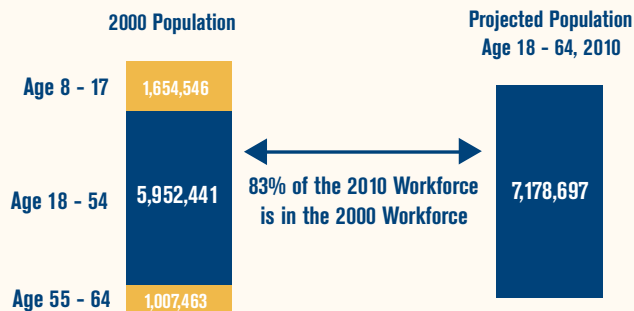
**Myth: The benefits of higher education are enjoyed primarily by individuals, with marginal benefit to society at large.**

**Fact: Increased educational attainment pays economic dividends for both the individual and the society as a whole.**

While the individual accrues significant economic benefits from higher education, the relationship between increased levels of education and indicators that benefit society as a whole is well established. Higher levels of education correspond with lower levels of unemployment and poverty. The young children of parents who attended college display higher levels of school readiness than do children of parents who did not attend. Once they graduate from high school, children whose parents have some college education are significantly more likely to attend college themselves than are those with similar incomes whose parents did not go to college.

**Implication: Left unaddressed, the current stagnation of educational levels may have significant consequences on per capita income and economic growth.**

## Percent of 2010 Workforce Already in 2000 Workforce



Source: U.S. Census Bureau

**Myth: Fixing the K-12 system is the answer; anything else is just patchwork.**

**Fact: Upgrading the skills of youth and adults currently in the workforce is required to ensure an adequate pool of skilled labor. While improving K-12 education is a critical need, it is not enough to ensure U.S. competitiveness.**

The demographics illustrate the issue: 83 percent of the 2010 workforce was in the workforce in the year 2000. Any solution to workforce readiness that ignores the need to continually upgrade the skills of workers over 18 years of age is incomplete.

Adults in the 25-34 age range will face competition from a global workforce that is becoming more educated and prepared for the demands of technology. A survey of 30 industrialized nations by the Organisation for Economic Co-operation and Development (OECD)<sup>5</sup> reveals the comparative weakness of the U.S. workforce is particularly concentrated in the young adult population, with the following U.S. rankings:

- Adults 45-64 with high school diploma: 1st
- Adults 35-44 with high school diploma: 5th
- Adults 25-34 with high school diploma: 10th

Moreover, in the United States today, the need for basic skills education for adults is well documented:

- 90 million adults over age 25 have no postsecondary education
- 36 million did not graduate from high school
- 52 million have only a high school credential

**Implication: Economic developers need to push for workforce development solutions that go beyond K-12 reform, including policies that address the skills gaps in the young adult workforce.**



## The role of economic developers and community colleges in workforce development

Ignored, these trends will translate into economic stagnation, threatening our productivity, our growth and our international competitiveness. Combating these trends cannot be left to educators alone; it requires efforts on many fronts. The leadership and commitment of economic development is essential. Economic developers should consider the following questions to help overcome this critical challenge.

### *Does your economic development agency have a broad-based workforce development strategy that includes building the capacity of community colleges?*

Economic developers must play central roles in strengthening the critical domain of community colleges and their capacity to upgrade workforce competitiveness. Attention to the community college sector can produce significant gains in the short run and build long-term capacity to benefit business, workers and the well being of the national economy.

### *Do you have high expectations of your local community college?*

In some communities, the partnership between community colleges and economic developers has yielded impressive results, while in others it has been disappointing. The mission of community colleges is access to higher education, workforce development and lifelong learning. Economic developers should have high expectations and be prepared to invest in the achievement of these goals.

But they also should understand some of the major trends that are influencing the workforce development mission of the community college sector. Community college leaders currently face a paradox. On one hand, community colleges are a phenomenal success story in higher education. But while growth in students has fueled increased tuition revenue, the public investment in community colleges has not kept pace.

This revenue squeeze has occurred at the same time that colleges have experienced growing demand for programs that are costly to deliver, such as nursing instruction and education for first-generation college students. Meeting these needs, in light of greater competition for public funding and a commitment to keep tuition low, should be a priority for the economic development community.

### *Do you partner with your local community college to strengthen workforce intelligence?*

While colleges aspire to stay on top of labor-market trends, few community colleges have the resources to support this function. Economic developers and agencies supported by the Workforce Investment Act can be key resources for colleges by providing knowledge and expertise on key economic development trends in the community and the emerging needs of employers. Starting with the community college president, economic developers can learn about the college capacity and partner to ensure the college has access to critical data for decision-making.

### *When the need for a new program emerges, do you know how to help the college respond quickly and effectively?*

The recent nursing shortage is an example of a community need that has been clearly documented but inadequately addressed by colleges in many regions across the country. Economic developers should be knowledgeable of three key areas where barriers may inhibit college responsiveness.

- **Financial barriers.** The Colorado Community College System examined the expenses of nursing programs in 2003 and learned that it cost more than \$2,200 to educate a nursing student than it did to educate a student in general studies program. In an era of reduced budgets, expanding nursing programs was not possible without additional funds to cover the marginal costs of nursing instruction.

Economic developers in many regions have partnered with their local community colleges to address this particular funding gap by bringing together hospitals, elected officials, college leaders and philanthropy to find solutions to the financial barriers colleges face in expanding nursing programs. In other parts of the country, economic developers have focused on technology program development at the college, brokering solutions that increased college capacity through new private sector investments.

- **Policy barriers.** In some states, the community college performance measures for retention and completion are based on performance of first-time, full-time students. While college performance with these students is important, it is an inadequate and incomplete measure. As is true with all types of systems, community colleges focus on what gets measured.

Economic developers should know what currently is being measured and be prepared to partner with community colleges to advocate for policies that reward community colleges for performance in the workforce development arena. The National Association of Manufacturers' Center for Workforce Success is examining this area with support from the Ford Foundation.

- **Internal barriers.** Sometimes college responsiveness is slowed by layers of curriculum committees, program approvals and general bureaucracy. While these systems may promote a goal of educational quality, they may no longer serve their purposes. Ultimately, it is the role of the board and college leadership to ensure system responsiveness. Economic developers can play effective roles as external agents for change.

## Community college leaders currently face a paradox.

## The Next Challenge

“War is too important to be left to the generals.” (Georges Clemenceau, Premier of France, World War I)

Today, more than ever, workforce development is too important to be left to educators. Economic developers can play important roles by dispelling myths, educating community leaders about key challenges, helping colleges meet high standards, and developing a policy agenda that addresses workforce development needs that will drive economic vitality.

The greatest needs for building workforce development capacity will be in providing expensive technical-skills training, access to workforce training in rural communities, and providing educational opportunities for poor adults with low skills and limited-English-proficient adults. The cost of workforce development solutions will require innovative investments from philanthropy, employers, the public sector and thoughtful tuition structures. Importantly, it will take investments in political capital, as well as dollars to address the challenge.

While the investment needed is high, the costs of failure will be even higher. Economic developers have long acknowledged that they cannot afford to settle for mediocre performance in the K-12 sector. Now, it's time for economic developers to ensure the nation's need for adult workforce readiness becomes a national priority.

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<sup>1</sup> Kelly, Patrick. As America Becomes More Diverse: The Impact of State Higher Education Inequality. Draft paper. 2005

<sup>2</sup> Employment Policy Foundation. Education Pays. 2004. <http://www.epf.org/pubs/newsletters/2004/ib20040216.pdf>

<sup>3</sup> Carnevale, Anthony and Donna Desrochers. “Why Learning: The Value of Higher Education to Society and the Individual. In Keeping America's Promise. Edited by Katherine Boswell and Cynthia Wilson. Education Commission of the States. 2004. <http://www.league.org/league/projects/promise/files/promise.pdf>

<sup>4</sup> Greenspan speech, 2004. <http://www.federalreserve.gov/boarddocs/speeches/2004/20040312/default.htm>

<sup>5</sup> OECD. Education at a Glance. 2004. <http://www.oecd.org/dataoecd/34/55/33714494.pdf>

## Your Economic Development/Community College Check List

Before you begin the process of collaborative work with your local community college, consider the following questions:

### ARE YOU CLEAR ON WHAT YOUR ECONOMIC DEVELOPMENT AGENCY WANTS AND NEEDS?

- What is the vision you have for your community?
- How does the community college fit in the comprehensive economic development plan?
- Does the vision require workforce development? What training is required for current and potential employees?
- What are the resources needed?
- How can your vision build capacity for the community as a whole?

### HOW WELL DO YOU KNOW YOUR COMMUNITY COLLEGE?

- Does the college offer educational programs that correspond to current workforce opportunities?
- How has the college responded to emerging labor market needs, both for current and prospective employers?
- How quickly does the college respond?
- What current training programs are available from the local/nearby community college?
- Can you cite an example of an employment need that was addressed quickly and competently by the college in the past two years?
- Does the college have programs that educate low-skilled and low-literacy adults?
- Do you have a contact at the college?
- Do you understand the college's key challenges?

### WHAT OTHER PARTNERS SHOULD BE IN THE MIX?

- With your clear goals in mind, what additional partners should be considered in an alliance – such as workforce investment boards, industry partners, employer organizations, local foundations and other agencies?
- What resources could these partners bring to the collaboration?
- What outcomes would these partners need from a collaboration?

The U.S. Department of Education published a series of guides highlighting the innovative ways in which community colleges are anticipating and responding to market demands of their localities and regions. “The 21<sup>st</sup> Century Community College: A Strategic Guide to Maximizing Labor Market Responsiveness” is available online at [www.ed.gov/about/offices/list/ovae](http://www.ed.gov/about/offices/list/ovae).

# Workforce Development:

## *A Region's Key Business Retention and Expansion Tool*

By **Barbara Johnson and Liza Sherman**

Senior Vice President, and Director, Business Development and Workforce, Greater New Orleans, Inc.

*Note: this article was written before Hurricane Katrina struck the Gulf Coast. While New Orleans will face an entirely new set of*

*challenges to workforce development and business retention in the years to come, Economic Development America believes that the workforce-industry partnerships that the region has created remain excellent models worth sharing with other communities.*

In the Greater New Orleans region, as in regions throughout the United States, workforce development has come to the forefront as a key driver in business attraction, retention and expansion. Industries such as manufacturing, healthcare and information technology report a struggle to find qualified workers to meet the higher skill requirements of today's workplace. The looming retirement of a large percentage of the U.S. workforce – The Big Crew Change – over the next 15 years creates a double whammy for industry in meeting its workforce requirements.

The raging debate in communities throughout the U.S. over the benefits and dangers of “offshore outsourcing” underscores the impact and importance of a qualified, cost-effective talent pool in attracting and keeping companies and jobs in an area. Consequently, economic developers are being catapulted into a leadership role in brokering workforce resources to beat the competition for jobs with other regions across the U.S. and the world.

As with any region, the New Orleans area has workforce assets and challenges. The region offers a talent pool of over 80,000 college students from 10 institutions of higher education, including Tulane, Loyola, Xavier, Dillard and the University of New Orleans. A Workforce Assessment conducted recently for Greater New Orleans, Inc., ranked the New Orleans region 25<sup>th</sup> of 350 metropolitan areas in the number of students graduating from post-secondary education in the sciences.

At the other end of the workforce skills continuum, a December 2004 *Council for a Better Louisiana* statewide employer survey reported that:

- more than 70 percent of employers in Louisiana have a difficult time finding qualified workers;
- nearly 40 percent say recruitment is more difficult today than it was five years ago; and
- 47 percent say the skill requirements of entry-level employees are rising.



These issues are reflected in the approximately 10,000 current job vacancies reported in key industry sectors in the New Orleans area, and represent primarily technical jobs which require two years or less of post-secondary training.

Greater New Orleans, Inc. (GNO, Inc.), the public-private economic development organization for the 10-parish New Orleans region, has forged a powerful regional partnership of business, civic, university and government leadership. Workforce development is one of the three critical arms of GNO, Inc.'s focused job creation strategy, centered around target industry sectors with labor shortages: Film and video, healthcare/biotechnology, and the advanced manufacturing trades in the shipbuilding, oil and gas, and chemical sectors.



## Sector-driven regional workforce agenda

GNO, Inc.'s sector-driven workforce efforts are coordinated through partnerships with various groups, many of which serve on GNO, Inc.'s guiding committee, the Regional Workforce Partnership. These groups include area industry partners, the Louisiana Community and Technical College System (LCTCS), the four area Workforce Investment Boards (WIBs), the Greater New Orleans Literacy Alliance and the Louisiana Department of Labor.

Through regional, cluster-specific task forces in the aforementioned sectors, as well as through advocacy for state workforce system realignment, GNO, Inc. is working to create unified strategies endorsed by all workforce system partners in order to positively impact high job vacancy rates in high-demand occupations. The lion's share of GNO, Inc.'s program focuses on addressing systemic workforce 'bottle-necks' that impede the growth of the regional target clusters.

## Film and video

The impetus for GNO, Inc.'s work with the budding film and video sector is a positive one – a dramatic upswing in film/video production in the state of Louisiana as a result of the passage of the Motion Picture Incentive Act of 2002. Since this legislation passed, Louisiana has seen more than \$900 million in production come to the state and more than \$90 million generated in Louisiana payroll. The great majority of production has taken place in the New Orleans area.

However, one of the barriers to the sector's growth is the problem that production companies have cited in finding qualified workers. Because growth in this sector has been so rapid, the community and technical college system, the Louisiana Department of Labor and area WIBs were not prepared to meet industry demand for qualified people, particularly in the crafts. To bridge this gap, GNO, Inc. partnered with the International Alliance of Theatrical Stage Employees union (IATSE) Local 478, the City of New Orleans, the four area WIBs, the community college system and the state Department of Labor to drive a two-pronged workforce initiative.

The first focus was a City of New Orleans-funded targeted advertising campaign to bring skilled workforce from other areas of the country to New Orleans to have the workforce necessary to sustain the current volume of production.

The second focus has been on designing fast-track, four-week training programs with union input, and securing funding from the state to establish the programs at local Louisiana technical colleges, which will train local New Orleanians for jobs in this sector. A pilot set of three one-month fast-track courses, funded by the four area WIBs and led by the Orleans WIB is planned. Longer-term funding for the fast-track programs currently is being solicited through an Incumbent Worker Training grant which IATSE Local 478 is submitting to the Louisiana Department of Labor. (The LDOL Incumbent Worker Training Program is the flagship workforce resource for companies in the New Orleans region and state. Annually, \$50 million in employer unemployment tax revenues is allocated through this fund for customized

workforce training for existing companies in Louisiana – the largest fund of its kind, per capita, in the U.S.)

## Advanced Manufacturing Trades – Shipbuilding

GNO, Inc.'s Advanced Manufacturing Trades initiative is focused on building a strong pipeline of technically skilled, entry-level workers for high-demand, high-wage jobs with career ladders in the manufacturing sectors of oil and gas, petrochemical and shipbuilding. There are several components to this initiative, the first of which is the creation of a standard curriculum to be launched in the fall of 2005 for the top-demand jobs in shipbuilding, including ship fitting, pipe fitting and welding. GNO, Inc. organized and convened a shipbuilding consortium with leadership from the five major shipbuilders in our region and the Region 1 Louisiana Technical Colleges to design the comprehensive training program.

Also in the shipbuilding sector, GNO, Inc. is serving as an intermediary on a two-year, \$100,000 grant awarded to Bollinger Shipyards from the National Association of Manufacturers and the Shipbuilders Council of America to train 90-100 people in job readiness, literacy and technical training for tacker positions through a collaborative of the major shipbuilders in the region. The effort also will focus on regional and state workforce system changes that need to be made to sustain the effort.

This project accelerates the work of GNO, Inc.'s Shipbuilding Consortium and builds on its successful partnership with Loyola's Lindy Boggs National Center for Community Literacy, workforce investment boards, the community and technical college system and others. Over the past year and a half, the group has designed and implemented a pilot training project, which to date has successfully moved 16 unemployed people into good shipbuilding jobs with the largest private employer in the state, Northrop Grumman Shipyards. Six months after placement, the retention rate for this first group of trainees is 87.5 percent.

## Oil, gas and petrochemical

In the oil and gas and petrochemical sectors, GNO, Inc. is working closely with a team of 12 industry partners and the Louisiana Community and Technical College System to bring the two-year associate degree in process technology into our region starting in spring 2006 and to modify it to fit the needs of oil and gas companies. A local advisory committee is driving this initiative, which started as a result of a May 2004 Labor Demand Survey of 12 oil and gas exploration and production companies. GNO, Inc. conducted the survey in response to anecdotal accounts that various companies were experiencing severe difficulties recruiting technically skilled workers. The companies also reported expectations of these difficulties to worsen due to rapid advances in technology as well as baby boomer retirement.

The survey identified 642 current and near-term 2005 vacancies in 14 occupational categories in those 12 companies alone, paying average wages of \$45,540; the top demand position identified was Production/Process Operator, with a

total of 375 vacancies. Thus the Process Technology degree program was established as the primary focus; subsequent initiatives are planned to focus on training for Electrical Technicians and Instrumentation/Automation Technicians.

Complementary to program development is a major outreach campaign. Currently in the planning stages, the campaign will publicize high-skill, high-wage jobs with good career ladders, in target high-demand occupations in the advanced manufacturing trades. GNO, Inc. in partnership with industry, is currently designing and securing industry funding for this project. The campaign will be a combination of grassroots and multimedia marketing and will target the 15- to 26-year-old emerging, underemployed and transitional workforce and those who influence them. The campaign will focus on publicizing the salaries and day-to-day reality of these jobs, as well as the training needed to access them, thus dispelling many misconceptions about jobs in these sectors and motivating 'new blood' to enter these promising careers.

## Healthcare

For the past two years, GNO, Inc. has driven the New Orleans Regional Task Force on Economic Development and Health Workforce Training, which has focused on filling 7,000+ nursing and allied healthcare vacancies in the 10-parish region. The task force identified insufficient training slots at area schools as the sector's major workforce bottleneck; schools were turning away qualified applicants due to lack of capacity.

The task force chose to expand funding for training and education as its primary focus. In the 2004 legislative session, it partnered with the Louisiana HealthWorks Commission and the Metropolitan Hospital Council to advocate for and secure \$1.68 million to increase enrollment by 273 students in nine healthcare programs in the New Orleans region, representing a 20 percent increase.

In the 2005 legislative session, GNO, Inc., again in partnership with HealthWorks and Metropolitan Hospital Council, secured an additional \$3 million, \$1.74 million of which is expected to come to the New Orleans region. That will result in a total increase of 600 students, translating into a \$27.2 million payroll impact upon post-graduation employment at an average salary of \$45,450.

## State Task Force on Workforce Competitiveness

A number of states throughout the country, including Florida, Washington, New Mexico and Mississippi, led by strong gubernatorial leadership, have or plan to execute major organizational change at the state level to better align workforce systems with needs of their existing and emerging industry sectors. More often than not, current state workforce systems are fragmented, cumbersome and not coordinated with a state's strategic economic development priorities.



In Louisiana, GNO, Inc. worked with key statewide civic leadership to create the State Task Force on Workforce Competitiveness in January 2005. Commissioned by Governor Blanco, this task force will develop a plan and 2006 legislative priorities for the restructuring of the state's workforce system to be more responsive to employers. The task force comprises state leaders in business, government, education and training, with private sector leadership from GNO, Inc.

An interim report was delivered to the Governor in April 2005, which documents the task force's findings of shortcomings and strengths in the existing system that spends \$720 million a year on workforce training. It also establishes key principles for guiding the proposed state strategic plan that include:

- single authority and accountability at the state level for workforce;
- alignment of workforce resources with regional and state economic development priorities; and
- a single point of contact at regional levels for employer rapid response training.

## Invested in workforce

GNO, Inc. wields workforce development resources as a powerful incentive in retaining and expanding business in the New Orleans region and in meeting its job creation goals. One of GNO, Inc.'s most important contributions has been its ability to convene key industries to assist them in identifying, articulating and forging a unified industry strategy for addressing their labor market challenges.

Additionally, GNO, Inc.'s role has emerged as a broker of workforce resources and organizations to address high-demand job training in the metropolitan area through an effective partnership of business, education and training and government in the region. Finally, at the state level, GNO, Inc. has pushed for major structural change to more effectively align workforce funding and organizations to create a competitive edge for Louisiana businesses. ★★

# Under One Roof:

## *New Governance Structures for Aligning Local Economic and Workforce Development*

Director,  
Economic and  
Workforce  
Development,  
Workforce  
Development  
Strategies  
Group,  
National  
Center on  
Education  
and the  
Economy

**By Mark Troppe** Across the country, there is a growing interest in aligning the work of economic development and workforce organizations.

Partly this is motivated by an attempt to make good use of increasingly scarce resources. Partly it is a reaction to intensifying competition for attracting and retaining companies with good jobs, as communities face off against others in the United States and around the globe. Partly it is motivated by a sense that, among practitioners, at best, we have missed opportunities to be more successful by joining forces.



Many have written about numerous aspects of local efforts to align economic and workforce development around specific initiatives or collaborative efforts. There are examples of cluster and sectoral strategies, joint planning, collaborative research, efforts to set broad goals and design tactics to achieve them. There also is increasing dialogue about the roles of state and local government agencies, quasi-public organizations and private intermediaries in growing the economy.

Yet there is not much written about the relatively few local jurisdictions that have gone so far as to reorganize economic and workforce development organizations and governance structures in order to bring their resources – including staff, funding, and organizational priorities – under one organizational umbrella.

The National Center on Education and the Economy conducted a study over the last year to provide similar insights for local government decision-makers considering structural realignments of agencies and organizations.<sup>6</sup> The study profiles five areas – New York City, Denver, Stanislaus County, Calif., Montgomery County, Md., and North Central Indiana – and explores the paths taken and common lessons learned across the sites. The five sites are geographically and economically diverse locations that represent a cross-section of communities and approaches, from a rural, Midwestern,

multi-county region to large urban areas. While one of the cases goes back two decades, most are in far earlier stages of maturity. Each case provides a varied look at how these areas have pursued governance changes, offering illustrations of how these changes might energize and institutionalize partnerships among local economic and workforce development entities.

### **Findings**

Our review indicated numerous ways in which communities have decided to restructure agencies and organizations to align economic and workforce development:

- Montgomery County moved the workforce function under the umbrella of the county economic development agency from an outside organization.
- Denver combined multiple functions (including workforce, housing and neighborhood development, business development and small business services) under the City's Office of Economic Development.
- New York City moved the program responsible for adult workforce development into the City's Department of Small Business Services.
- Stanislaus County created a new entity that serves as the home for both workforce and economic development functions.



# The specific organizational restructuring plan chosen appears to be less important than how the change process is handled.

- North Central Indiana created a committee of the work force investment board, providing a regional umbrella that convened and coordinated individual counties' economic development activities and made it possible for local economic development agencies to engage in joint marketing, research and planning.

The review showed that the five communities used a wide array of approaches, and that there is no single right path for restructuring local government to align workforce and economic development functions. The five areas highlighted were motivated by diverse factors, and chose drastically different organizational realignments. Some approached the task of restructuring slowly and methodically over many years, other boldly and dramatically over a short time horizon. Strategies and tactics were as varied as administrative streamlining, co-location of staff, cluster analysis and implementation of sectoral approaches.

The remainder of this article addresses crosscutting insights from the five cases organized around five separate categories: *drivers for change, ability to change, engagement of stakeholders, the restructuring process, and the impact achieved.*

## Drivers for and ability to change

Three major drivers led local leaders to conclude that agency or organizational structural change was needed. These included:

- dissatisfaction with the status quo,
- unwelcome public attention precipitated by questionable financial practices, and
- impatience with less than optimal results from existing agency structures organized around narrow functional or geographic lines.

In all cases, these drivers inspired strong local elected or agency officials to action. In Denver, for instance, the Mayor's experience as an entrepreneur led him to propose expanding nascent structural changes in city government. In New York City, Mayor Bloomberg promoted reorganization in order to make public services more business-friendly. In North Central Indiana, county officials supported collaboration across individual counties because they could identify more attractive assets when speaking as a multi-jurisdictional region.

Once restructuring was decided upon, numerous factors contributed to the rate at which the change could occur and the degree to which the changes were welcomed. These factors included:

- the familiarity and experience that key staff had with the different agencies' roles and responsibilities in advance,
- the vision that leaders brought to the restructuring process,

- the respect and perception of key agencies and leaders among those with whom they merged,
- the political sense of urgency exerted by political and agency leaders,
- existing staff culture and attitudes, and
- how well the proposed changes fit the community and organizational cultures in the participating organizations.

In Stanislaus County, the County Board of Supervisors' extensive experience pursuing countywide collaboration around economic and workforce development convinced the Board to disband both the economic development agency and the WIB in order to create an entirely new entity that could benefit from a fresh start.

## Engaging stakeholders

The cases share several important characteristics of stakeholder engagement in their efforts. In each instance, proponents and those charged with implementing the restructuring sought to appeal to a wide range of stakeholders, using their political capital and credibility and building on early successes to advance the agendas. Most importantly, they used the potential value of the restructuring to attract stakeholders' and partners' support and cooperation. Their value, in terms of new opportunities identified and services delivered, reinforces the benefits of the restructuring and further builds the relationships.

In Stanislaus County, engaging the public-sector stakeholders was paramount. In a multi-jurisdictional area with nine cities, local leaders had to build trust among the public units first, especially where there had been a history of distrust. Stanislaus County leaders successfully employed three mechanisms to increase the cities' confidence in the reform effort, including selecting a new CEO with credentials that built credibility; creating a fair representation system on the board; and pursuing a comprehensive, collaborative, countywide planning process. Each action demonstrated the good intentions of the effort and fostered support among stakeholders.

In New York City, the Small Business Services agency purposefully targeted a few key large employers in growth industries, offering customized services in hopes of both building its reputation and enhancing the agency's ability to bring services to scale.

The experience in all five areas suggests that rather than one single roadmap for guaranteed success, the path seems to depend on local circumstances, existing institutional and personal relationships, political realities and related factors. The specific organizational restructuring plan chosen appears to be less important than how the change process is handled, once the decisions about structure are made.

## The restructuring process

Montgomery County provided some formal training for staff involved in the integration, but mostly depended on informal interactions among staff to build trust and relationships, identify opportunities and create synergies. They recognized that a major change of this nature involves a substantial culture shift, and integration of services needs to occur gradually over time.

In Denver and Stanislaus County, forming new organizations involved designing new missions, goals, bylaws, organization charts and employee salary/benefit structures that built on earlier experience but provided new opportunities. Both cited several advantages of creating new entities, including:

- the ability to make a “fresh start” and forge a new vision for the entity, unhampered by former identities and responsibilities;
- the chance to overcome funding silo problems and discover creative ways to combine multiple funding streams; and
- the possibility of avoiding the need to assume some of the former entities’ liabilities.

Yet there were disadvantages as well, including:

- the challenge of closing out old programs, accounts, and obligations while opening new ones;
- the liabilities around creating a new organization with its numerous legal issues;
- the risk that staff of the former entities might lose their positions in the new entity; and
- the large investment in training necessary to create a new culture and orient employees about the new agency mission, vision, programs and tools.

## The impact achieved

These communities illustrate the broad range of ways in which organizational restructuring can advance efforts to coordinate workforce and economic development to achieve common goals and concrete impact. The impact can include benefits in planning, collaborative research and information sharing, funding accessed, joint marketing and purchasing, and service delivery, as well as broader changes in organizational culture and business practices and processes.

Communities that undertake agency restructuring often expect to realize a more streamlined strategic planning process as one outcome. In many cases, the collaborative research, planning, and information sharing led to important actions around agreed-upon strategies. The restructuring activities also helped place economic development issues on the public agenda and revitalize partners and the community as a whole, and created a more customer-focused and demand-driven agency culture.

For example, North Central Indiana achieved designation as the multi-county North Central Indiana Economic Development District by the Economic Development Administration, responsible for planning the region’s Comprehensive Economic Development Strategy (CEDS)

and administering the accompanying federal funds. Denver’s Office of Economic Development convened a new research group comprised of analysts from multiple divisions charged with determining how the office can address problems holistically. In Montgomery County, the Department of Economic Development’s planning function now routinely incorporates workforce expertise and resources into its strategy-setting.

In summary, there are numerous impacts resulting from organizational restructuring that coordination of functions and services alone is less likely to achieve. These include:

1. *Improved problem-solving from holistic thinking.* The expanded organizational mission and the cross-fertilization of ideas among staff from different components foster holistic and creative solutions to problems. Attention to staff development details (such as implementing staff cross-training) encourages thinking about development- and business-related issues, and brings varied perspectives and expertise to the table in a regular and structured fashion.
2. *Consistency and alignment.* Staff members seek to advance one broadly defined and clearly articulated mission, not multiple organizational missions, and lines of authority and reporting can be more clearly defined.
3. *Greater resources under one roof.* Some of the highlighted cases realized fiscal savings in restructuring organizations that could be reapplied toward advancing the organization’s mission. Moreover, while individual funding streams associated with specific components often are earmarked for specific programs and activities, alignment under one organization allows for more focused and creative thinking about the use of earmarked and more flexible funds among staff with different perspectives.
4. *Greater accountability.* Staff members ultimately answer to only one leader in the organization, rather than multiple leaders across organizations.
5. *Potential to institutionalize desired changes.* Restructuring addresses some of the fundamental barriers to effective organizational change, such as aligning organizational culture, business processes and performance management systems. As such, restructuring holds the potential to institutionalize the desired changes in attitudes, behavior, and outcomes that often motivate the effort and influence its success. The early evidence from the cases presented suggests that the benefits realized are potentially more long-lasting than simple strategies or tactics undertaken without structural change. ★★

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<sup>6</sup> This article is derived from a publication edited by Mark Troppe, Workforce Development Strategies Group at the National Center on Education and the Economy. Aziza Agia, Gretchen Cheney, and Pam Anderson researched and wrote the individual case studies in the full report, which is available from NCEE at [www.ncee.org](http://www.ncee.org). We are indebted to the US Department of Labor, Employment and Training Administration and the Ford Foundation for their support of this work.

# Putting Inner Cities To Work

By **Manjari Raman**

Vice President, Initiative for a Competitive Inner City

For Boston-based City Fresh Foods, setting up shop in the inner city wasn't a compulsion – it was a necessity. The company was founded in 1994 by three

young entrepreneurs who came up with a unique business idea: They would offer fresh, home-style ethnic foods to homebound senior populations. At the core of the business plan was the strategy to tap local culinary talent to develop Latin, Caribbean and Russian menus.

In 10 years, City Fresh Foods grew from a 1,000-square-foot store in the economically challenged Four Corners neighborhood in Dorchester, Massachusetts, to a nationally recognized food service company that produces more than 4,000 meals a day for homebound elders, students and private-catered customers.

City Fresh Foods isn't just a thriving inner city business today – it's a business that has grown by leaps and bounds by capitalizing on one of the biggest competitive advantages of America's inner cities: a large, diverse and available workforce. City Fresh Foods' co-founder and CEO Glynn Lloyd is the first to admit that he could not have done it without his staff and managers, all of whom are hired locally and among them represent more than seven countries – on a typical day, the City Fresh Foods facility in Dorchester is abuzz with chatter in Haitian, Cape Verdean, Spanish, Portuguese and English.

## The changing face of America

America's inner cities are a window to the future. They are home to the largest labor pool in the country, and more importantly, they represent a microcosm of the emerging multi-lingual, multi-racial composition of America's 21st century workforce. Census 2000 illustrated the changing demographic profile of the country. While white non-Hispanics are expected to comprise 64.3 percent of the population by 2020 – down from 80 percent in 1980 – African-Americans, Asians and Hispanics will see their numbers burgeon. By the end of the next 15 years, African-Americans are expected to comprise 12.9 percent of the population, up from 11.5 percent in 1980; Asians will constitute 6.5 percent of the population, versus 1.6 percent in 1980; and Hispanics will be 16 percent of the population, up from 9 percent in 1990.



An employee prepares lunch at City Fresh Foods in Dorchester, Mass., where open-book management is key.

Inner cities already reflect these racial reconfigurations. The Initiative for a Competitive Inner City's (ICIC) State of the Inner City Economies research shows that in 2000, 82 percent of the population in inner cities consisted of minorities, in contrast to 31 percent across the U.S. Of these, 41 percent were African-American, 33 percent Hispanic and 5 percent Asian-Pacific. Immigration also contributes significantly to the higher multi-ethnic mix of inner cities: One fourth of inner city residents are foreign-born, compared to one tenth nationwide.

### Fig. 1 Minority Population (2000)

Inner city	82%
U.S.	31%

Source: State of the Inner City Economies, ICIC

### Fig. 2 Race and Ethnicity

	Inner Cities	Rest of City	Rest of MSA
Black	41%	14%	9%
Hispanic	33%	16%	13%
Asian Pacific	5%	8%	1%
Non-Hispanic White	19%	60%	71%

Source: State of the Inner City Economies, ICIC







## The experiences of many companies have shown that rather than being a liability, inner city workers are some of the most loyal, motivated and driven employees a company can hire.

America's emerging demography has significant implications for labor markets. In the 1990s, as the American economy reached full employment, it raised the very real specter of a labor shortage. Employers were pressed to tap new pools of workers, including people with disabilities, women working at home and the recently retired. Rising wages coupled with the growth of globalization led to outsourcing the manufacture of products and services to labor markets outside the United States. In the process, the underutilized and underemployed population at the very heart of America's urban core was overlooked.

As America develops new strategies to sustain its global economic strength, the focus is shifting to the ability to lead through innovation and technological superiority. In the 21st century, America's ability to continuously reinvent its competitiveness will depend on its success in deploying internal resources – particularly human resources – more effectively, rather than seeking low-cost manufacturing or service bases globally. In these circumstances, underemployed or unemployed inner city populations will be a valuable energy source for driving the economic engine.

### Making it work

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The challenge lies in recognizing the potential of America's inner cities and overcoming the myths that cloud their image. According to an ICIC survey in 2004, perceptions about the level of crime in inner cities are much higher than actual crime levels. Similarly, the experiences of many companies repeatedly have shown that rather than being a liability, inner city workers are some of the most loyal, motivated and driven employees a company can hire.

Businesses that set up shop in inner cities quickly recognize the hidden asset that their local workforce represents. A survey of the 2005 ICIC - Inc. Magazine Inner City 100, a national annual ranking of the country's fastest-growing inner city companies, revealed that inner city residents hold more than 40 percent of the 14,000 jobs in the 2005 Inner City 100 companies. When asked to list the top competitive advantage that these companies enjoyed because of their location, the response was unequivocal: access to a diverse and available workforce.

The Inner City 100 companies are some of America's highest-growth corporate entities. On average, the companies on the 2005 list grew by 827 percent between 1999 and 2003 with a compound annual growth rate of 67 percent. Together, they generated over \$2.2 billion in annual revenue. They *choose* to hire inner city residents because it makes business sense to do so. A close look at some of the Inner City 100 companies over the last seven years reveals that these companies have developed smart strategies to get the best out of their inner city workforces. Consider the following examples.

### Managing retention

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For Chicago-based Ameriscan Designs, a custom woodworking and cabinetry business, finding skilled workers can be difficult, so the company works hard at retaining its employees by using a mix of skills training, salary increases and promotions.

Most employees at the entry level come in as floor sweepers. Those who show a desire to advance and a willingness to work hard are quickly moved up. First, entry-level employees are paired with more experienced employees for on-the-job training, and are required to work their way through a checklist of formal skills. At every stage, employees know exactly the raise or promotion that goes along with the acquisition of a specific skill set.

The net result: The company hires low-skilled inner city employees at \$7 per hour for jobs like floor sweeping and soon has the most successful employees working at highly skilled woodworking jobs (such as cabinetmakers and installers) that pay \$30 per hour.

### Financial stability

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Brightside Academy is the largest daycare provider in Pittsburgh. Like any other child care provider, the company cannot afford to have unstable employees in its centers. Realizing that employee stability is linked to personal finan-

cial stability, CEO Harold Lewis began a concerted effort to help employees gain financial security through programs such as no-interest loans, free checking and home ownership assistance.

The company has more than 800 employees, many from inner city neighborhoods, 15 percent of whom are currently borrowing from the no-interest loan program. Brightside also partners with a “rent-to-own” company that allows workers to put down 5 percent of the cost of a house, rent the home for a year, and then use part of the year’s rent plus the 5 percent initial payment to make a down payment for the purchase of the home. Brightside may even lend employees the 5 percent down payment. The initiative has allowed the company’s low-income families to own their own homes – which in turn has created loyal, motivated employees. In an industry with a turnover rate of 36 percent or more, Brightside enjoys a low employee turnover rate of just 15 percent a year.

### Hiring immigrants

Belkin Components, a manufacturer of computer peripherals and accessories, needs employees that can “pick, pack and ship” orders containing hundreds of computer parts in just 30 minutes. The company requires a large workforce with specific skills such as good hand-eye coordination.

For the last 10 years, the company has depended on Los Angeles’ Refugee Employment Training Program (RETP) to access a steady stream of such employees. RETP often places Vietnamese or Cambodian immigrants at Belkin. Many immigrants had professional careers before coming to the United States, and though they might have language barriers, they possess the assembly and visual skills that Belkin requires. RETP prescreens applicants for their suitability and prepares candidates based on Belkin’s interview and testing procedures; new hires then are monitored for 90 days. Belkin encourages language training and employees are able to work their way up to jobs with higher pay and more opportunity.

### Flexible timing

Recognizing that many of its inner city employees have pressures at home that make fixed, full-time hours difficult, Lone Star Direct has developed a unique program that allows employees to work full-time hours on a flexible schedule.

The Austin, Texas-based company is one of the nation’s leading marketing and direct fulfillment firms that promises to fill orders “any time, any where, any how.” To ensure that performance remains at top standards, the company has developed a team-based flextime program that starts with grouping employees into six teams of three to five people. Employees called ‘fillers’ float among teams whenever a project requires extra hands on deck. Two teams work 20 hours a week; two other part-time teams work 30-38 hours a week; and two teams work 40 hours a week plus overtime when required. Each team has a different schedule of days and hours, set by the team on a weekly basis, based on the needs of each team’s members. The company found that because it goes out of its way to accommodate employee needs, employees are eager to return the favor; it’s not unusual for

## Austin-based Lone Star Direct developed a team-based flextime program with different schedules of days and hours, based on the needs of each team’s members.



Direct marketing services firm Lone Star Direct, based in Austin, Tex., uses personality tests to find employees who fit the job.



Employees at the architectural woodwork firm Ameriscan Designs in Chicago, Ill., work in a multi-lingual work environment.



Mentoring is a key aspect of successful workforce development programs at many companies.

the entire staff to offer to work late in the evening or come in on weekends to help finish a project.

### Community participation

On-Target Supplies and Logistics is one of the fastest growing logistics-management companies in Dallas. To ensure a constant supply of potential employees, the company encourages community outreach initiatives. One of these involves partnerships with local community colleges, where On-Target executives are encouraged to teach courses.

This gives the management a chance to disseminate its corporate culture to a wide audience of potential employees, and as employer-teachers, On-Target managers get to pick the cream of the community college crop. Once in the organization, the focus is on making sure that every employee is involved in a continuing education program. All 70 employees at On-Target know they must pursue their next highest business-related educational level/degree, or risk losing their jobs. On-Target pays for the tuition and believes it is more than amply rewarded by its low-cost strategy for hiring, retaining and growing talent.

### Paving the way

Denver-based PlastiComm Telecommunications supports a program designed to place low-income residents in well-paying jobs with advancement opportunities. To ensure a smooth induction phase, the company offers pre-employment training to new recruits and works with community-based employment and training organizations such as Rocky Mountain SER to ensure a smooth entry for new employees. Rocky Mountain takes potential employees to job sites to

show them what they should expect and to make the new job less intimidating. The organization also provides weekly follow-up and counseling services to new hires. Rocky Mountain helps employees acquire appropriate workplace attire and find transportation, childcare, healthcare and other work-related necessities. It also provides soft-skills coaching on issues such as on-the-job conflicts that could potentially lead to termination of employment.

### Building buy-in

In order to nurture a sense of ownership and efficiency in employees, Jacksonville-based Caribbean Shipping and Cold Storage instituted “The Great Game of Business.” Employees learn the principles of running a business, set cost-saving goals and “win” by meeting those goals. These savings are then shared with employees as a bonus. Playing the game has allowed the company to improve performance on strategic parameters such as reducing receivables, cutting down on damaged product claims and reducing overages. Employees now create their own games: When they learned that the company spends \$13,000 a month on electricity, they started the “Power Rangers” team, a group responsible for turning off all computers, lights and fans at night. This simple initiative alone has resulted in an estimated savings for the company of \$600 a month.

### Winning strategies

Many more examples of companies that are profitably hiring inner city residents can be found at [www.workforceadvantage.org](http://www.workforceadvantage.org), a joint collaboration by ICIC and Jobs for the Future to disseminate innovative workforce strategies. Instead of going overseas in search of low-wage employees, these companies have built globally competitive businesses by finding talent in their own backyards.

Going forward, a very simple, cost-effective solution to America’s labor shortage will be to strengthen the links between companies that need to hire and inner city residents who are eager to work. That will require focusing on two key areas. First, strategies that align the education, skills and training of inner city residents with the needs of hiring firms need to be put in place. Second, the information gaps that prevent closer collaboration between firms and potential inner city employees must be narrowed. A final but crucial pre-condition is that American companies must overcome negative preconceptions and recognize that the inner city is open for business. ★★★



# The Career Readiness Certificate – *An Idea Whose Time Has Come*

By **Barbara Bolin**

Director, Career Readiness  
Certificate Consortium

The future of manufacturing in America lies in entrepreneurial thinking that creates new kinds of products demanded by our high-tech world.

For America to maintain its tremendous capability for innovation, adaptability and entrepreneurship that first made us a world leader, we need a well-prepared, highly skilled workforce that embraces lifelong learning. Unfortunately, our education system is finding it hard to produce these types of workers and professionals. Even highly educated scientists and engineers sometimes are not successful in the modern workplace that demands good communication skills, teamwork and innovative thinking.

## The importance of gauging work readiness

Employers know that the cost of hiring, training, and retaining good workers significantly affects their bottom line. For an employer who may be contemplating moving a business to a new state or expanding an existing company, the skill level of the available workforce is often a deciding factor.

Hiring for entry-level positions is particularly difficult because the applicant often has little or no work history, and presents only a brief resume and an educational credential such as a high school diploma or a two- or four-year degree. While these credentials are beneficial, they do not always give a clear indication of the skills that the applicant possesses. They also do not indicate whether the holder is trainable for a work environment that will continue to change quickly.

Experts predict that by 2010, more than 80 percent of all jobs will require skill levels beyond those gained in high school. Almost all workers will need training and education at the post-secondary level, yet in the United States most training is done on the job, and all indications are that this situation will not change in the coming decades. What employers need, therefore, are employees who are *trainable*, and who can benefit from the many opportunities afforded them for skill enhancement by their employers.

Over the last 20 years, employers have become disillusioned with both the trainability of high school and college graduates, and with their associated work ethic. The second issue and its solution are, for the most part, societal concerns. The trainability issue, though, is one that many states have set out to address through the Career Readiness Certificate.

## How the Career Readiness Certificate works

In 2003, six states (Virginia, Kentucky, North Carolina, Maryland, Tennessee and West Virginia) plus the District of Columbia agreed that a portable credential that indicated attainment of criterion-referenced workplace literacy skills would be beneficial to the regional economy that spans these states. They then formed a voluntary group, the Career Readiness Certificate Consortium, in order to support and assist each other with the deployment of the credential.

A common language was needed for such a credential, so it was decided to base the Career Readiness Certificate on WorkKeys assessments (a product of ACT, formerly American College Testing), which over the last 10 years has become a widely accepted tool for skills definition among employers, educators, trainers and potential and incumbent employees.

The WorkKeys system was developed as a measure of workplace literacy and as a predictor of workplace success. It allows for identifying skills needed on the job, assessing the skills of employees, and indicating specific skills training to close gaps between the two.

The power of the WorkKeys system lies in its:

1. **Objectivity.** Skill levels mean the same everywhere, unlike school grades.
2. **Simplicity.** Skill levels are described in terms of single-digit numbers whose meanings are clearly defined.
3. **Compliance** with federal law (ADA, EEOC).
4. **Legal defensibility.**

The Career Readiness Certificate includes three WorkKeys assessments – Applied Mathematics, Locating Information and Reading for Information – and is awarded at three levels: Bronze (level 3 on each assessment), Silver (level 4) and Gold (level 5). The definitions for these certificate levels are shown on the back of the credential so that an employer can see exactly what skills a person possesses.

Skill Area	Bronze	Silver	Gold
Reading for Information	3	4	5
Applied Mathematics	3	4	5
Locating Information	3	4	5

# WORKER CERTIFICATION

The onus on getting the Career Readiness Certificate usually falls on the potential employee. The cost can be paid with existing education or workforce development funds, or by an individual or an employer. Training to raise skills levels is done on-line (through private vendors, one-stop centers or community colleges) and is quick and inexpensive. The training is effective, not superficial; most people can raise their skills one level in about 20 hours. Costs associated to administer and score the tests and issue a Career Readiness Certificate vary from state to state, but typically are less than \$100 per individual.

Five states are now issuing the Career Readiness Certificate; it is expected that at least three more will do so by the end of 2005. Pilot projects are underway in several states, and in some states that haven't officially deployed the program, certificates are being awarded and used at the local level.

While each state is deploying the credential in its own way – from the governor's office, from the community college system, or from the state workforce development board – there is consistency across the Consortium in terms of the three assessments used and the definition of skills levels. The goal of the Consortium is essentially to encourage this consistency among states so that the Career Readiness Certificate becomes a national portable credential.

## The benefit to employers

The benefit to employers is significant. They need only specify in job descriptions the Career Readiness Certificate level needed by an applicant, as is commonly done with other educational requirements. This guarantees a level of skill and trainability of applicants before they come through the door of the human resources department.

Employers are excited by the prospect of the time, effort and money that could be saved by working with potential and incumbent employees who already have a credential based on WorkKeys. More than 300 employers in Virginia alone – including Northrop-Grumman and Morningstar Foods – already use WorkKeys as a tool for hiring and promotion. And by requiring Career Readiness Certificates, employers will send a clear message that trainability and workplace literacy are important.

Some employers are beginning to assess their incumbent workforce and are using the results to train individuals only where training is needed. Community colleges across the country are now offering this service to employers as part of their customized training and continuing education departments. Schools and colleges also are beginning to require their students to be assessed before graduation. For example, in one region in South Carolina, eight high schools require their students to get the Certificate in addition to their diploma; in Alabama, a number of community colleges use the assessments for students in their technical programs.

To address the problem of attracting new businesses to a region, a Skills Bank database has been developed to manage all Career Readiness Certificate and WorkKeys data. In states that have adopted the Skills Bank, it is a free, Web-based application that can be queried by zip code, geographic region, college district and in many other ways to show the skill levels of the populace. An interested potential employer can query the database for the region under consideration and learn that there are 900 people with a Gold Certificate, 800 with Silver and 500 with Bronze Certificates living near where they intend to do business, thus indicating the trainability of the region's workforce.

The Career Readiness Certificate Consortium is continuing to grow, and the hope is that the credential will become a complementary exit certificate for high school and college students. The long-term vision is also that the Career Readiness Certificate will become the starting point for other credentials focused on the needs of various industry sectors.

*For more information on the Career Readiness Certificate and the Consortium, visit [www.careerreadinesscertificate.org](http://www.careerreadinesscertificate.org) or contact Barbara Bolin, Ph.D., Director of the Career Readiness Certificate Consortium and Managing Director/CEO of Bolin Enterprises, LLC ([www.bolinenterprises.com](http://www.bolinenterprises.com)), at 804-310-2552 or [bolinb@earthlink.net](mailto:bolinb@earthlink.net). ★★*

CRC deployed	CRC in progress	Interested in CRC
Kentucky	North Carolina	Ohio
Indiana	North Dakota	Colorado
Virginia	Oklahoma	Michigan
Louisiana	South Carolina	Kansas
Missouri	Alabama	California
	Tennessee	Delaware
	Wyoming	Maryland
	District of Columbia	Rhode Island
	West Virginia	Illinois
	Iowa	Hawaii
	New Mexico	Montana
		Minnesota
		Washington
		Idaho
		Mississippi
		Florida
		New York
		Alaska
		Arizona
		Nebraska

# Manufacturing Skills Certification:

## *A New Fast Track for Regional Innovation*

By **Leo Reddy**

Founder, National Council for  
Advanced Manufacturing, and  
Industry Manager, Manufacturing  
Skill Standards Council

A milestone in the history of American workforce and economic development took place on November 15 of this year, when the Manufacturing Skill Standards Council (MSSC) launched a new certification system designed to prepare a generation of American workers to meet the challenges of globalization. The system will assess worker skills and knowledge based on industry-validated standards for all manufacturing sectors, leading workers to the nationally recognized certification of “Manufacturing Production Technician.”

For the economic development community, the advantages of certifying incumbent workers, dislocated workers and students are obvious. Regions impacted by technological change, trade disruptions, company relocations or declining economies will have the advantage of a flexible workforce prepared for rapid retraining and transfer to other industry sectors – including new types of manufacturing in fields such as bioengineering, nanotechnology and microelectronic mechanical systems.

On the front lines of global competition, manufacturers have increased productivity by stepping up their investments in advanced product and process technologies. As a result, manufacturing today requires a higher level of foundational skills. A workforce with broad-based skills will enable companies to shift more rapidly to new process technologies that transform the way products are made, such as smart systems, reconfigurable tools, modeling and simulation, advanced sensors and solid-free form fabrication. The fact that the MSSC skills are rooted in manufacturing makes certification an especially robust tool for accelerating this transition.

The MSSC certification system also will:

- Help regions gain a competitive edge against low-wage/high-skill countries such as China and India by accelerating innovation, America’s principal advantage in the global economy;
- Secure investment from advanced manufacturers with high-wage, high-skills jobs, and “new industries” that all economic developers are trying to attract;
- Leapfrog sluggish educational reform to prepare individuals for successful employment in advanced manufacturing firms in a matter of months, not years;

- Strengthen the math, science, and English skills so vital to workforce success by teaching them within a contextual, work-oriented framework; and
- Quickly create and document just the kind of workforce for which industry is clamoring.

In addition to increasing a region’s productivity and competitiveness, MSSC certification should enable significant cost savings for economic developers. The efficiency and economies of scale realized through this single system for essential skills can then be used for specialized efforts in economic fields unique to each region.

### **Focusing on foundational skills**

A unique feature of the MSSC system is that it is built upon standards for *foundational* skills and knowledge. It assesses and certifies individuals on their abilities in math, science, reading, listening, communicating, computer technology, analysis, problem solving, teamwork and basic technical skills, all in a manufacturing context.

The MSSC’s focus on foundational skills represents a paradigm shift in workforce development. Building upon the centuries-old tradition of the craftsman or artisan, industrial workforce education and training typically has rested on the assumption that an individual would spend a lifetime in a single occupation, such as machinist, mechanic, electrician, welder, tool and dye maker, metalworker or electronics technician.

MSSC is changing that tradition by certifying individuals who are equipped with the foundational skills needed to fill a wide variety of occupations over a lifetime. Innovative and often disruptive technologies will alter or eliminate existing occupations and create new ones at an accelerating rate. By



# WORKER CERTIFICATION



Manufacturing today requires a higher level of foundational skills, which enable companies to shift more rapidly to new process technologies.

definition, the next-generation workforce must be agile and fully capable of adapting to change.

## System elements

Since its selection in 1998 as the “Voluntary Partnership” for the manufacturing sector by the U.S. Department of Labor’s National Skill Standards Board, the MSSC has been building the critical elements of its certification system. Those include:

- The creation of industry-led standards for all sectors of manufacturing, applicable to some 12 million production and production support workers (the only standards fully endorsed by the National Skill Standards Board);
- An on-line, state-of-the-art assessment piloted with 1,500 tests given in multiple regions of the nation;
- A system of industry-recognized credentials, including assessments in four areas – Manufacturing Processes and Production; Quality Assurance; Maintenance; and Health, Safety and Environmental Assurance – leading to full certification of “MSSC Production Technician;”
- A growing network of MSSC-authorized assessment centers; and
- A new textbook and instructor’s guide published in collaboration with Glencoe/McGraw-Hill, which provides a curriculum framework based on MSSC standards.

The textbook is a guide to mastering foundational skills in all 14 manufacturing sub-industries, helping workers identify and fine-tune skills for entering, advancing and moving confidently throughout the manufacturing industry. It includes manufacturing case studies and career and employment advice from industry employers and experts. The textbook is specially geared for certification by including a full page of MSSC Certification Test Prep practice items at the end of each chapter.

MSSC is a comprehensive, integrated system, grounded in skill and knowledge needs defined and validated by 4,000 front-line workers, 700 companies, and over 300 subject matter experts. The importance of a systems approach was underlined by a July 2005 RAND report, “Education and the

New Economy,” which welcomed the rise of industry-led skill standards, but called for a “coherent system” within industry sectors.

## Benefits to companies

The skills gap is a major barrier to innovation. A 2005 Deloitte Touche survey of 500 technology CEOs reported that the “main barrier to growth is finding, hiring and retraining qualified people to support technology companies’ ambitious growth goals.” From the company perspective, the MSSC assessment and certification system will:

- Enhance the attractiveness and professionalism of manufacturing jobs, thereby aiding manufacturers in securing employee motivation and retention;
- Provide a diagnostic tool for manufacturers to assess the level of critical skills and knowledge in their present workforce;
- Increase ROI for training by targeting training to only the most critical job-related success factors (the “must know” and “must do”);
- Decrease recruitment costs by providing a certification credential manufacturers can use in the applicant screening process;
- Assist manufacturers in selecting workers with higher levels of productivity, responsiveness and competitiveness; and
- Build a stronger national pipeline of motivated and qualified workers coming out of public, private and industry-based education and training providers.

At present, manufacturers are hard-pressed to realize benefits of this magnitude. For example, 80 percent of manufacturers still report a shortage of qualified workers and 78 percent cite failures in education and training systems as the cause. Only 17 percent of Americans graduate with science or technology majors, while the average among industrialized states is 27 percent (52 percent in China and 34 percent in Korea).

MSSC certification also articulates well with specialized national certifications in specific occupations and advanced industrial skill areas, such as certifications by the American Chemical Society, the Society of Plastics Industries, the National Institute of Metalworking Skills and the American Welding Society. Thus there is a smooth career pathway for individuals wishing to move from foundational skills into more specialized areas.

## An example from the automotive sector

A good example of the kind of system that MSSC is putting into place can be found in the automotive repair arena. In response to customer demands in the 1970s for more reliable service, the Big Three automakers supported the development of a national certification system. With their support, a nonprofit foundation developed the Automotive Service

Excellence (ASE) certification system. As a result, “ASE” logos are found in automotive repair facilities everywhere in the nation.

ASE has proven to be a winner for all stakeholders. Employers use this certification to facilitate recruitment and hiring decisions. Auto technicians use “ASE” certification as a way to document their skills and to secure a nationally recognized, portable credential. Consumers like us benefit, because we have a higher level of confidence that our automobiles will be properly serviced.

Today, over half of the nation’s automotive technicians are ASE certified. By contrast, the level of certification in the manufacturing sector is very modest. According to the U.S. Department of Labor’s “Occupational Outlook” series, fewer than 15 percent of the 110 occupations listed under “Production” have any form of skills recognition (i.e., certification, AA degree) beyond on-the-job training. A region that supports an MSSC certification system for its manufacturing workforce can use it as a key tool to attract manufacturers to the region.

### Effectiveness requires partnership

Effective use of the MSSC system will require economic developers to work closely with other key organizations in their states and regions. Foremost among these is the employer community. Economic developers can facilitate dialogue between the MSSC and industry leaders and work with MSSC to establish industry advisory boards. Unless companies are willing to reward individuals for securing MSSC certification through hiring, training or promotion, there will be little incentive for the individual to seek certification.

Another critical partner is the technical high schools and community-technical colleges where much of the preparation for the MSSC assessment will take place. In the regional MSSC pilots, community colleges are playing a critical coordination and training role. These include San Bernardino Community College in Southern California, Milwaukee Area Technical College in Wisconsin, and Ivy Tech Community Colleges in Indiana. The federal- and state-supported Manufacturing Extension Partnerships (MEPs) also can be valuable partners in building an MSSC certification system, especially with small and medium-sized manufacturers with fewer than 500 employees.

Interest and investment in the MSSC certification system has been high. Organized by the National Council for Advanced Manufacturing (NACFAM) and the AFL-CIO Working for America Institute, the MSSC has attracted about \$9 million in public and private investment. Since 1998, MSSC member organizations have included some 247 corporations and trade associations, 48 unions and professional societies, and 392 education and public interest organizations. In addition, the MSSC followed a meticulous process to ensure that its standards met all the criteria for due process and absence of racial or gender bias.

Most importantly, advanced manufacturers attracted by MSSC certification can serve as a powerful engine of eco-

omic development. The manufacturing sector has the unique attributes of being the leading investor nationwide in research and development, having the highest productivity growth rates, and paying some of the highest wages and benefits. Manufacturing also has the greatest multiplier effect. Each manufacturing job creates about twice as many jobs in service industries directly related to manufacturing, such as transportation, marketing, installation and repair, information technology and finance.

It is time for the economic development community to leverage this investment. While the MSSC is a national system, economic and workforce development professionals and local officials should integrate it into their regional innovation strategies to spur entrepreneurial activity and attract private sector investment that results from the creation of a high-skill workforce.

*For more information on the MSSC, visit [www.msscusa.org](http://www.msscusa.org) or contact the author at [reddyl@nacfam.org](mailto:red-dyl@nacfam.org). ★★*

## Skill Standards Overview

The MSSC skill standards have two major components. They are:

### Information About the Work

This component describes competent performance on the job. It includes:

- **Critical Work Functions:** The major responsibilities of work within a concentration.
  - **Key Activities:** The major duties or tasks to carry out a critical work function.
  - **Performance Indicators:** Ways to judge when someone performs each key activity competently.

### Information About the Worker

This component describes what a worker needs to know and do to perform the work of each critical work function. It relates to the key activities and performance indicators. There are three types of knowledge and skills measured:

- **Academic Knowledge and Skills:** Skills such as math, reading, etc.
- **Employability Knowledge and Skills:** Broad skills such as working in teams, solving problems, etc.
- **Occupational and Technical Knowledge and Skills:** Skills specific to an industry or concentration. Examples include using inspection tools, or knowledge of manufacturing processes.

# Preparing Middle and High School Students for Careers in Science and Health:

## *Partnerships from the Chicago Area*

By **Joanna Greene**

*Deputy Director, Chicago Workforce Board*

Today's youth are tomorrow's workforce. That's why the Chicago Workforce Board (CWB) is involved in two innovative programs that are connecting middle and high school students to real-life work experiences and the skills necessary for the good jobs of the future. Through a science-based distance learning program and a healthcare-career promotional initiative, CWB aims to fulfill the dual goals of stimulating students' interest in promising careers and meeting the workforce needs of some of the region's high-demand, high-paying jobs.

### **The Science Careers Video Conferencing Series**

Argonne National Laboratory, one of the U.S. Department of Energy's largest research centers, is an incredible scientific research asset located in the Chicago area. Argonne supports upwards of 200 research projects, ranging from studies of the atomic nucleus to global climate change. Since 1990, Argonne has worked with more than 600 companies and numerous federal agencies and other organizations.

To take advantage of this resource, CWB, Chicago Public Schools and Argonne have formed a unique partnership to introduce students to the real world of science careers.<sup>1</sup> The Science Careers Video Conferencing Series introduces students to scientists, technicians, and the tools and facilities with which they do their exciting work.

Typically, middle and high school students have little opportunity to meet, let alone interact, with a broad range of scientific researchers and technical professionals during the school day. To provide this opportunity without having to spend two or more hours traveling on school buses to and from Argonne (located 25 miles southwest of Chicago), Chicago public high school students are talking with scientists and taking virtual field trips from their school classrooms.

"As students see scientists as down-to-earth people with interesting jobs, and numerous perks, it is hoped they will stop and reconsider their career plans, instead of opting for traditional business, law, or liberal arts programs," says Lou Harnisch, Program Coordinator at Argonne's Division of Educational programs. "Just because a student excels in a science class does not mean she or he will automatically target a research or science-related career. Many students need more proof; they need a boost. With this program, they learn first-hand what it is like to be a scientist."

Between November 2003 and May 2005, 11 point-to-point video conferences took place between Argonne and four Chicago public high schools, involving hundreds of students, six teachers and 29 Argonne scientists, engineers, and technicians. During the actual sessions, students saw lab procedures and experimental work in progress, learned about scientific teamwork and asked questions of the scientists. The scientists and technical professionals involved included material scientists and engineers, chemists and chemical engineers, spectroscopists, physicists, computer scientists, programmers and equipment designers, ranging in experience from early-career postdoctoral scientists to senior scientist team leaders.





Students from Roosevelt Middle School answer a question in the Chicago Regional Science Bowl at Argonne National Laboratory.

The project was designed to use Internet-based connectivity because of its availability and flexibility within the local schools and its potential for low-cost operation. Its ubiquitous high-speed availability across Argonne's campus also makes most lab facilities accessible for conferencing.

The program has conducted two types of conference sessions. In one, scientists introduce themselves, invite students into their labs, show a slice of their cutting-edge research, converse with students and answer questions. In the second, students present their science fair or assigned class project (such as making rockets or musical instruments) to a team of three to four scientists who give them guidance, feedback and encouragement. (In a session at Payton High School, the Argonne scientists selected the winners for the top science projects.) A natural dialogue ensues and scientists discuss their educational and career backgrounds, their research, and also their hobbies and outside interests.

Each session has its own advantages. The first can highlight new technologies and what scientists do, while the second is usually very engaging and personal for the students.

### Implementing the program

The first 18 months of the program presented a number of challenges that were tackled with varying degrees of success. These issues fall into several main categories, including:

- Connection quality,
- Conference content, and
- Follow-through to maintaining content quality.

Since the project uses Internet-based connectivity, the quality of video and audio transmission can never be assumed. Two important factors affecting the quality of service are institutional firewalls and heavy traffic on Chicago's Internet backbones. In the first six months of the program, Chicago Public Schools (CPS) worked with its technology provider to mitigate these issues, which allowed for connec-

tivity at eight schools. Due to a change in a CPS technology contractor, only two schools participated during the second year of the program, but six to eight schools will be prepared to participate during the 2005-2006 school year.

The technology coordinators at each school and at CPS headquarters were extremely important in making the technology work, by opening firewalls, constantly testing lines, and scheduling sessions.

Beyond technological considerations, many additional factors contribute to the quality of a distance learning session, some of which include:

- availability and selection of scientists (a large pool is essential so that the same individuals are not featured too frequently);
- the mix of pre-recorded media (short video clips, pictures, Powerpoints) and equipment (cameras, whiteboard, document camera) needed to enhance the conference, all of which minimize the "talking head" effect and make for a more varied and interesting session; and
- preparation on the school end, such as the need when doing student presentations to send any descriptions, drawings and photos to Argonne at least 24-48 hours in advance, so that scientists have the opportunity to review them.

The content of any particular session is dictated by the subject level, type of students, type of conference and the class curriculum. Matching and customizing these elements is a constant balancing act between classroom needs and available Argonne project resources. Teacher feedback is vital in pulling all these elements together, keeping the schedule on track, prepping the students and following through on evaluation. A continuous goal is to have this cadre of teachers meet with Argonne staff to better understand each other's strengths and limitations and fine-tune the program.

# Healthcare professionals talk about the importance of their education, and the teachers and family members who influenced their decision to choose healthcare careers.

A goal of the Science Careers Series is to improve transmission quality and expand the number of participating schools. This may include conducting multi-point conferences with two or three schools, which would bring the same quality of scientific resources to even more students. Another goal is to improve communication and awareness among all stakeholders, in order to capture impressions and feedback from students, teachers, and tech coordinators after each session. Project partners and educators can then evaluate these data and share the results with teachers, project coordinators and administrators, so that the best elements of the program can be preserved and improved.

## **The Other Side of the Stethoscope**

The Workforce Boards of Metropolitan Chicago, a consortium of nine area boards, has done extensive research on current and projected skill shortages for a variety of healthcare occupations across the state of Illinois. Like the rest of the country, Illinois currently has a shortage in many healthcare positions, which is projected only to grow as nurses and other healthcare workers retire and the population ages and demands more healthcare services.

The research showed that one of the solutions to supplying skilled healthcare workers for the future is to introduce healthcare career awareness to students, their parents and teachers during the middle school years. With a coalition of partners (including the Chicago Tribune - News in Education, The Metropolitan Chicago Healthcare Council, the Illinois Hospital Association, The American Society for Healthcare Human Resources Administration and the Chicago Public Schools - Chicago Math and Science Initiative), CWB developed an innovative set of healthcare career awareness materials for Chicago Public School seventh grade students called “The Other Side of the Stethoscope.”<sup>2</sup>

The Chicago Public Schools require that in eighth grade, students and their families select which high school they will attend. Several of the high schools have Education-to-Careers programs for the healthcare field, which involve coursework in math and science to prepare for post-secondary training. So it is particularly important that students and their families understand at the middle school age the wide variety of promising healthcare careers that are available. This program enables families and educators to help students explore the healthcare field, plan their high school curriculum and research the educational and training requirements for different occupations.

“The Other Side of the Stethoscope” provides several resources, including a teacher’s curriculum guide and a student supplement to help develop reading and writing skills while learning about career opportunities in healthcare. In addition, each student receives a family activity sheet, along with eight deliveries of The Chicago Tribune to use as a resource to do research about the healthcare field.

In the materials, individual and group activities tailored to meet Illinois State Learning Standards link lessons in science, math and language arts to many facets of healthcare. Students practice using the same research, problem-solving and decision-making skills that Chicagoland healthcare professionals use daily to care for their patients.

“The Other Side of the Stethoscope” was used successfully by over 73,000 seventh grade students in the classroom during the spring of 2004. Classroom materials were accompanied by a campaign of radio, television and Internet advertising in which a diverse group of Chicago healthcare professionals talked about why they chose their careers, their educational background and why they love their jobs. These professionals, many of whom attended Chicago Public Schools, talk about the importance of their education, and the teachers and family members who influenced their decision to choose healthcare careers. Their positive message to students is clear – healthcare careers are rewarding, well paying and stimulating, and if we can accomplish this goal, so can you!

*For more detailed information on the Science Careers Series, visit the project Web site at <http://www.dep.anl.gov/sciencecareers/>. ★★*

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<sup>1</sup> Funding was provided by the Illinois Department of Commerce and Economic Opportunity.

<sup>2</sup> Both the research and the materials were funded by the Illinois Department of Commerce and Economic Opportunity.

# Help Wanted: *Smyth County, Virginia*

By **Sally H. Morgan**

*Economic and Community  
Development Director, Smyth  
County, Virginia*

This is the story of a rural county that used a workforce development strategy to bring its dying manufacturing economy robustly back to life.

Smyth County, Virginia, population 33,000, is located in southwestern part of the state along the Interstate 81 corridor. Almost 45 percent of Smyth County's workforce was employed in manufacturing as of the late 1980s. A large component of the manufacturing base was apparel and furniture production until the period of 1998 to 2003, when a rush of plants closed due to overseas competition, resulting in the loss of four large apparel operations and two major furniture producers.

During that same period, five other industries closed and two manufacturing plants suffered major market-related downturns. The total number of jobs lost was over 2,500 out of a workforce of 15,500, with the resulting unemployment rate peaking at 12.4 percent in January 2003.

Despite these dramatic job losses, the remaining industries in the county (who called themselves the "survivors") began to experience growth by 2003, and they quickly learned that even in light of high unemployment, they were not able to find the workforce that they needed. Many positions went unfilled.

## Creating a plan

In 2003, the Smyth County Industrial Council, an active group of CEOs and plant managers, decided to undertake a study of the Smyth County workforce to examine this problem. The project resulted in the Smyth County Workforce Profile, a 42-page report that concludes with a set of 10 recommendations.

The study methodology was driven by business leaders, who determined the questions to be asked and agreed to validate the report and its findings. An outside consultant conducted extensive interviews with local manufacturers and other major employers (30 in total) regarding their current and future employment needs. About 350 jobs were identified as being open at the time of the study, despite relatively high unemployment. The study identified the lack of employee skill sets as the "disconnect" between the demand for employees and the available supply.

What were the missing skill sets? Many employers complained that the young people completing high school lacked job readiness skills – the so-called "soft skills," but better defined as "employability skills." Employability skills actually were viewed as more important by the employers than traditional "hard skills" such as lathe machine operation or weld-



ing. The list of soft skills and traits that employers cited needing include: reliability, flexibility, writing skills, positive work ethic, critical thinking, courtesy, basic math knowledge, communications skills, ability to listen, team skills, reading comprehension and motivation to do a good job.

The workforce study also asked about specific hard skills. It found that business leaders could name specific positions that they currently had open, but when asked to describe the skills and traits necessary for those positions, what employers described was not too dissimilar from the soft skills listed above. They included strong mechanical skills, problem solving skills, team skills, knowledge of a variety of manufacturing machines, robotics design skills, ability to handle materials, ability to read blueprints, electronics skills, computer programming skills, good record keeping skills, ability to interpret data, and program management skills.

Some of the specific hard skills identified were certified CNC (computer numerically controlled) machinists, certified welders, forklift operators and heavy equipment operators. At the time of the interviews, more than two thirds of the employers surveyed were having difficulty in finding qualified workers.

## A common problem

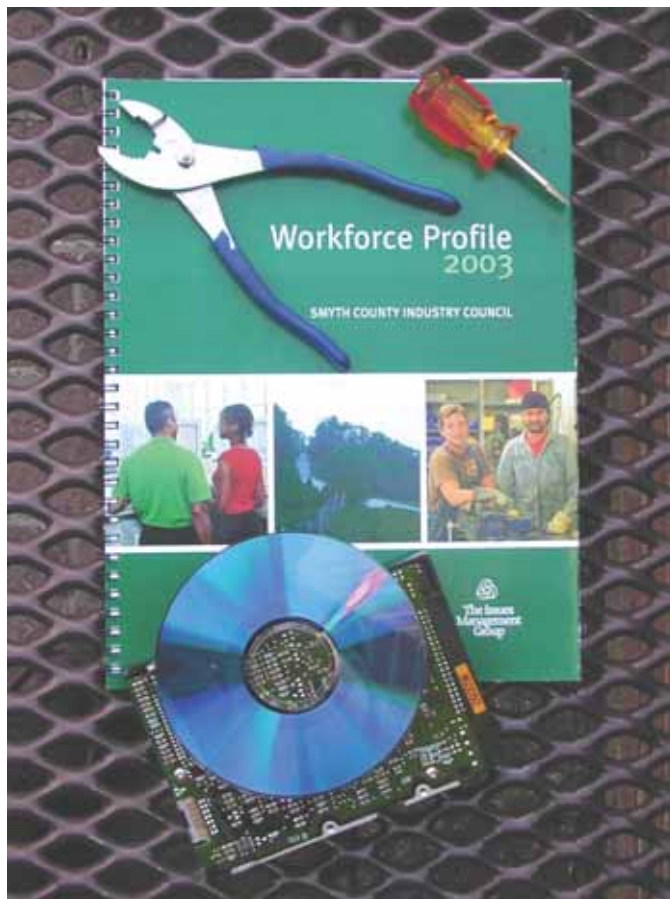
Smyth County certainly is not alone in experiencing this workforce skills gap. For many decades, manufacturing has been the backbone of the American economy. However, global pressures from lower labor costs overseas have forced U.S. operations to make major strides in efficiency in order



# Advances in technology require that employees at all levels have a wide range of skills.



Smyth County has undertaken several initiatives to address the workforce skills gap, including a new “Career Pathways” program that will incorporate technical training and workplace readiness skills along with academic preparation in the K-12 curriculum.



to cut costs. The resulting advances in technology require that employees at all levels have a wide range of skills. A recent study of workforce issues in manufacturing, conducted by the National Association of Manufacturers and entitled “The Skills Gap: Manufacturers Confront Persistent Skills Shortages in an Uncertain Economy,” identifies the sector’s shortfall of qualified employees with specific educational backgrounds.

It has been difficult in Smyth County to document what happened to the workers who lost their jobs when the plants closed. Many retired or simply dropped out of the labor force, while others entered retraining programs or were re-employed in manufacturing or non-manufacturing jobs. Some local industries have reported being pleased with the work ethic and the basic manufacturing skills of former sewing machine operators or furniture production workers, although they may have needed subsequent retraining in newer, more automated manufacturing production systems.

The Smyth County Workforce Profile has led to several initiatives that are complete, ongoing or being designed to address the problems identified. The two community colleges serving Smyth County took the initiative and partnered to provide free employability skills training for Smyth County workers and unemployed individuals. The program’s first run provided 69 workshops over a four-month period that included sessions on leadership skills, communication skills, basic computer skills, business ethics, critical thinking, and job search skills. The program proved much more successful in serving incumbent workers than unemployed individuals, so the colleges are studying innovative ways to attract more displaced workers into the program.

The workforce report also recommended a new partnership between K-12 education and the private sector to prepare a well-trained workforce. The Smyth County School Board soon will be implementing a “Career Pathways” program that will incorporate technical training and workplace readiness skills along with academic preparation in the K-12 curriculum, modeled after the State of Michigan’s Career Preparation System. A key objective of the Career Pathways program is to partner with area employers to make workforce training a vital part of the education experience.

In response to the increasing need for technical skills and knowledge, the Smyth County School System has revamped its career education program and now offers a very popular pre-engineering curriculum at the high school level. This program has attracted some of the best and brightest high school students who in the past would not have considered attending the former vocational school (now the Career and Technology Center), due to a stigma that those programs were for the least able students or those with discipline prob-

lems. The school system is making headway in changing that stereotype with the leadership and involvement of administrators and counselors with employers.

## Regional action

Smyth County also is taking action regionally to address workforce issues. Neighboring Washington County is experiencing similar workforce shortages, and industry managers from both counties have pulled together to develop answers to the problem.

The counties together are looking at joint efforts to recruit more students from high school into advanced manufacturing technology training programs and to promote manufacturing as a career with high-paying jobs and advancement opportunities. A highly selective “manufacturing academy” is one idea being considered by the joint group.

Many local companies also are experiencing difficulty in filling middle- and upper-level management, engineering, and other professional positions, so a “return to roots” marketing program – targeting area natives who have moved away – is planned to attract them back to the region. Many young adults in the 25- to 40-year age range who left Smyth County after high school or did not return after college would take the chance to return home if they knew that good employment opportunities existed.

Other initiatives include the upgrading of equipment (the Smyth Career and Technology Center will soon purchase state-of-the-art robotic welding equipment), training scholarships, and a possible regional training center for advanced manufacturing technology.

## Looking long-term

In response to the needs of existing industry, Smyth County has proposed a multi-targeted approach to prepare its students and adults for the workforce needs of the 21st century. The long-range objectives are to increase the total employed workforce in the county from the current 14,400 persons to 16,500 persons by 2012, and to increase the per capita personal income of Smyth County residents from 63.5 percent of the state average to 80 percent of the state average by 2012.

Smyth County has been fortunate to have strong, viable employers that were able to fill the void left by the loss of 11 manufacturers. Since 2003, the remaining 26 manufacturing operations in Smyth County (including two new ones) have increased their employment by 18 percent and are continuing to grow. The current manufacturers are concentrated in the transportation, defense and building components industries, rather than furniture and apparel. The average weekly wage is higher in manufacturing than in any other sector of the economy in Smyth County. The local unemployment rate is now regularly below five percent, and the proportion of jobs in manufacturing is rising, not falling.



Since 2003, manufacturing operations in Smyth County such as Epoch Composites, pictured above, have increased their employment by an average of 18 percent. The local unemployment rate is now regularly below 5 percent.

However, Smyth County’s existing industries continue to face severe economic challenges in the competitive global economy. Local economic development efforts must be focused on existing industry needs, especially in preparing the labor force with the skill sets necessary for employers to increase productivity and remain competitive. For example, companies spend a great deal of time and money on training, so finding ways to reduce training costs can be more important to a company than a one-time incentive grant or an equipment loan.

If existing employers are not satisfied with the local workforce, then business expansions will be hindered, and a locality will have a difficult time convincing new companies to locate in the community. Economic development truly must go hand-in-hand with workforce development, and workforce development must be driven by employer needs.

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