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Innovating Workforce Development By Supporting Business Innovation: Case Studies from California

**By Chuck Flacks, Labor Market
Information and Policy Manager, and
Terri Lee Bergman, Workforce
Consultant**

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INTRODUCTION -- THE FLAT EARTH AND THE FISCAL CRISIS

In today's global reality, mass production occurs where labor is cheapest and capital flows in a borderless, frictionless world, a phenomenon dubbed by Thomas Friedman as the "flat earth."¹ In this world, knowledge is king, and economic growth depends on the knowledge and skill of an area's workforce.

This shift in economic reality requires a concomitant shift in economic and workforce development, the processes designed to expand economies and prepare individuals to work in them. Economic development must examine how innovation and entrepreneurship occur in a region, and then bolster these activities. Workforce development also must focus on innovation and entrepreneurship, supporting the skill needs of small, entrepreneurial businesses in the more demanding areas of science, technology, engineering, and math.

To maintain its economic dominance, the United States economy has shifted away from a manufacturing-based industrial economy to a knowledge-based innovation economy,² where ideas and entrepreneurship are the economic engines. To adequately support this move, economic development and workforce development must function as complementary forces in communities, forging relationships where once they could operate quite separately:

- Funded by tax increments, business improvement districts, and grants from the U.S. Department of Commerce, **economic development** has focused on attracting, retaining, and expanding businesses. Regional economic development corporations have served as links between business and government, advocating for conditions favorable to business (e.g. lower taxes) and negotiating special financial incentives for specific companies.
- Funded by U.S. Department of Labor grants to state employment agencies, which in turn fund local initiatives, **workforce development** has been our nation's "second chance system," preparing economically disadvantaged adults and youth, as well as dislocated workers for jobs in the local economy. Workforce development typically has operated as a distinct and separate entity at all three levels of government, though it sometimes is associated with education, social services, or even economic development, and frequently relies on local education or community-based organizations to deliver services.

Now, at a time when it is most critical for these two functions to be working together in concert, a serious shortfall in funding has limited the effectiveness of each. At a time when the need for both more basic **and** more advanced skills among America's workers is increasing, and at a time when the needs of businesses for capital, workers, and access to new markets is exploding, the federal government has decreased its support of community development.

National priorities have severely curtailed funding for workforce and economic development. The boom and bust cycles of rapid innovation, and the resulting ebb and flow of tax revenues, have limited the amount of government money available for these systems as well. Federal

¹ Friedman, Thomas L. (2005) *The World is Flat*. New York: Farrar, Straus and Giroux.

² *Tough Choices or Tough Times*, (2006) The Report of the New Commission on the Skills of the American Workforce, National Center on Education and the Economy, www.skillscommission.org.

allocations for workforce development, for example, have decreased 12.88³ percent since 2002 (accounting for inflation), and the U.S. Congress has failed to reauthorize the Workforce Investment Act (WIA), the legislation establishing our nation's workforce development system, since it expired in 2003.

Enter a New Breed of Regionalism

While funding has been scarce, leadership has been less so. The U.S. Department of Labor's Employment and Training Administration (ETA) envisioned a "demand driven" workforce development system, with training, skills development, and job placement directed at satisfying the needs of the changing economy. The vehicle for this change was to be regional economic development based on partnerships among local government, education, training institutions, business, and workforce organizations. ETA released several rounds of grant funding to build these collaboratives, which became part of ETA's Workforce Investment in Regional Economic Development (WIRED) initiative.

To prove the old adage "necessity is the mother of invention," several regions in California have launched initiatives linking workforce and economic development. Some of these initiatives are funded by WIRED grants, but many are not. These regions of invention are bringing together the strands of workforce development, economic development, and business innovation without regard to traditional borders (either geographic, political, or "turf"). Not content to go down with the ship of diminishing government resources, the regions have looked broadly for new connections, new partners, and different kinds of resources to support their efforts.

Here are their stories. All of the programs include a Workforce Investment Board (WIB), the local entity that oversees workforce development activities, as well as a business entity in their partnerships. All of the programs were started recently. All are united by the idea that supporting innovation in industry yields positive economic development and workforce development benefits. None relies on traditional models of program design, funding, or the government's required "common measures"⁴ of accountability for education and training programs.

These are the seeds. Planted in fertile ground, these seeds of innovative community development may provide the cuttings needed for a new breed of regionalism that can be transplanted around the nation. These programs cannot be called "best practices," because there was no systematic method for either choosing or assessing them. Yet, the experiences presented here may provide the ideas necessary for sowing new fields of invention and innovation.

The programs discussed here are:

³ Authors' calculations based on FY2002 and FY2008 funding levels for Adult, Youth and Dislocated Worker funding streams. FY2002 funding levels available at <http://www.doleta.gov/budget/tepbah.pdf> and FY 2008 funding levels at [http://www.doleta.gov/budget/08req\\$.pdf](http://www.doleta.gov/budget/08req$.pdf).

⁴ United States Department of Labor Employment and Training Administration, "Training and Employment Notice No. 8-02" (2003), *Implementation of Common Performance Measures for Job Training and Employment Programs*.

- **Life Sciences Summer Institute** – A San Diego County partnership between the San Diego Workforce Partnership, Inc. (the San Diego WIB) and BIOCOCOM, the region’s life sciences industry association.
- **Solar Industry Training Program** – A Silicon Valley partnership of the NOVA WIB, the emerging solar industry consortium (SolarTech), and three community college districts.
- **Small Business and Entrepreneurship Support** – A North Central California WIRED initiative of the Northern Rural Training and Employment Consortium and the North Central Counties Collaborative (two WIBs), in partnership with the region’s small business development centers and regional economic development organizations (EDOs).
- **Transit Training Partnership Program** – A Sacramento County partnership among the Sacramento Employment and Training Agency (SETA), the Sacramento County Office of Education, American River College, Holt, Inc. (a large local employer), and the California Labor Federation, designed to train mechanics to work with green technologies on biofuel diesel engines.
- **Nanotechnology Partnership Program** – Co-location and mutual support between the Silicon Valley Workforce Investment Network (Work2Future) and the International Association of Nanotechnology.

As with any program, there are hundreds of potential stories that could be shared; however, the scope of this research was on how these programs help support business innovation and regional economic development within a particular WIB’s service area. The stories cover:

1. Program History
2. Program Results
3. Program Funding
4. Stakeholder Reaction
5. Challenges
6. Replication

Final Historical Note

Historically, WIB’s were designed to provide job training opportunities to the most disadvantaged people in particular communities. The move toward regional economic development is very recent, and possibly at odds with the core mission of many WIB’s who see their primary role as supporting low-wage or dislocated workers and disadvantaged youth. The stories presented here were selected precisely because they represent a departure from the bread-and-butter activities of WIB’s, and demonstrate what might be the next stage of workforce development.

SAN DIEGO'S LIFE SCIENCES SUMMER INSTITUTE: *Supporting a Cluster While Growing Your Own Workforce*

In San Diego, the life sciences industry is big business; it employs nearly 39,000 people and generates over \$8.5 billion annually for the local economy. Major companies with a San Diego presence include Pfizer, Johnson & Johnson, Novartis, Invitrogen, Gen-Probe, Amylin Pharmaceuticals, Genentech, Biogen Idec, Nanogen, Isis and Diversa Corporation.⁵

The Milken Institute named San Diego the number one biotechnology cluster in the United States in 2004. According to the San Diego Regional Economic Development Corporation, "that ranking comes, no doubt, from San Diego's climate of innovation, and its success in bringing products to market, establishing new companies, and creating jobs. San Diego is famous for the spirit of collaboration among its world-class universities, research institutes, community colleges, non-profit organizations and business community."⁶

Program History

In 1991, the region's leading biotechnology employers created BIOCOM, an industry association responsible for promotion, networking, media relations, group purchasing, professional development, and public policy. BIOCOM came to have an unusually close relationship with the San Diego Workforce Partnership, Inc. (Workforce Partnership), the region's WIB: the president and CEO of BIOCOM, Joe Panetta, was on the corporate board of the Workforce Partnership, and the president and CEO of the Workforce Partnership, Larry Fitch,⁷ was on BIOCOM's board of directors.

Panetta and Fitch's close and frequent contact allowed them time to strategize about preparing a world-class scientific workforce for San Diego. Part of this strategy, they agreed, was placing individuals in internships within the region's biotechnology companies. BIOCOM had placed people in internships at its member companies before, as part of the association's professional development mission, however, it had never had a systematic process for screening, training, placing, and following up with the interns.

To address this need, the Workforce Partnership and BIOCOM partnered with Biogen Idec, Invitrogen Corporation, Southern California Biotechnology Center at Miramar College, and the Amgen Foundation to develop the Life Sciences Summer Institute (LSSI). Created in 2005, LSSI connects upper-level high school, university, and community college students, as well as high

"We hear over and over and over again that the short term hiring problems that are faced by the life sciences industry are only going to get worse because of the shortage of young men and women with education and interest in the life sciences. The Life Sciences Summer Institute is designed to correct this. We are trying to get people interested in these courses of study and in these careers."

- Mark Cafferty, President and CEO, San Diego Workforce Partnership, Inc.

⁵ San Diego Regional Economic Development Corporation, http://www.sandiegobusiness.org/industry_biotech.asp.

⁶ San Diego Regional Economic Development Corporation, http://www.sandiegobusiness.org/industry_biotech.asp.

⁷ Larry Fitch served as the president and CEO of the San Diego Workforce Partnership, Inc., through January 1, 2008, at which point Mark Cafferty became the president and CEO, initially in an acting capacity.

school and community college teachers, with leading companies within San Diego's life sciences community.

In the high school and college **student internship program**, students gain exposure to career options, hands-on laboratory experience, work readiness skills, and mentoring by a company or research scientist. The program begins with an introduction to the biotechnology lab, known as the **biotech boot camp**, and is followed by a paid internship within the life sciences industry and ongoing monitoring of the interns' experiences.

One of the most innovative components of LSSI is the **teacher externship program**. The externship program was developed to increase awareness of the local life sciences industries (biotechnology, medical devices, diagnostics, and related areas) among those individuals who are most influential in the development of our future workforce. Teachers gain exposure to the industry through hands-on laboratory curriculum training, company externship experiences, and curriculum integration, along with sharing and peer networking. The two-week paid program, hosted in Biogen Idec's Community Lab, includes one week of industry introduction and laboratory curriculum training using the Amgen-Bruce Wallace Biotechnology Laboratory Program curriculum, followed by one week of half-day industry externship experiences and half-day curriculum connection and implementation workshops.

Program Results

LSSI has been very successful. The number of student internships and teacher externships has grown considerably over time. However, the size of both the student internship and teacher externship program is still relatively small. This size issue hints at the largest challenge to the program.

LSSI does not gauge itself by the common measures established by the federal government for education and training programs (which focus on job placement), rather, success and impact are defined by interest in the program and expansion. The program has resulted in job placements, though. About 12 percent of the students placed into internships continue to work either part- or full-time with the company in which they interned.

Student Internship Program	Summer 2005	Summer 2006	Summer 2007
Number of Applicants (HS/College)	38	127	198
Number of Boot Camp Attendees	23	24	50
Number of Student Internships	13	44	61
Number of Companies Hosting Interns	8	14	15

The effectiveness of the teacher externship program has an added dimension, unique to its design, which is based on the number of students a teacher is able to influence when he or she returns to the classroom. **It is estimated that each teacher reaches an average of 189 students per year, expanding the number of students reached through the externship program geometrically.**

Teacher Externship Program	Summer 2005	Summer 2006	Summer 2007
Number of Applicants	12	20	25
Number of Teachers Enrolled	10	20	24
Number of Companies Hosting Externships	14	16	10
Approximate Number of Students Reached	1,701	3,402	4,536

The value of the student internship program to the region's biotechnology companies has grown over time. When the program was started, many companies already had internship programs, drawing on the sons and daughters of employees or friends, or stemming from partnerships with a smart school counselor. Companies found, however, that the LSSI interns were better prepared for their internships because of the biotech boot camp they participated in at the beginning of the program. These companies continued to hire their own interns in subsequent years, but asked LSSI to enroll them in the program's boot camp first.

Other companies that had hired their own interns for years decided to turn the whole process over to LSSI. They felt that the program did a better job of pre-screening applicants, and were happy to free up their human resources offices from reviewing thousands of internship applications.

“For some biotechnology companies, LSSI became an intern training program, for others an applicant pre-screening process.”

- Mark Cafferty, President and CEO, San Diego Workforce Partnership, Inc.

Part of LSSI's success is how it has transformed businesses' approach to their own internship programs; and ultimately, how they seek and recruit talent.

Program Funding

In determining how to support the LSSI program, the Workforce Partnership knew it could not use traditional WIA funds. These funds came with requirements for who could be served and how success must be measured that were incompatible with the LSSI program design.

Fortunately, the U.S. Department of Labor's ETA was interested in funding some innovative pilot programs, and indicated an interest in a joint Workforce Partnership – BIOCOM grant application. In response to their 2004 grant application, ETA awarded the two institutions a High Growth Job Training Initiative grant that covered the \$300,000 per year, labor intensive process of finding companies, finding potential interns, screening interns, placing interns, training interns, and tracking the progress of the interns.

Now that the ETA grant is concluded, LSSI partners are looking for corporate donations, foundation grants, and alternate grant resources to sustain the program.

Stakeholder Reaction

All three of the Workforce Partnership's governing boards have supported the organization's programs with the biotechnology industry:

- The **Workforce Investment Board (WIB)**, the board established by the WIA that is responsible for oversight of all WIA programs⁸;
- The Workforce Partnership **Corporate Board**, the board that oversees all of the activities of the San Diego Workforce Partnership as a corporate entity, and
- The **Policy Board**, which serves as the "local elected official" established by WIA, with final authority over the Workforce Partnership's activities.

The groundwork for this support initially was laid by extensive labor market studies of the region's industries. These studies demonstrated the importance of the biotechnology industry and its capacity for producing high-skill, high-wage jobs.

Further groundwork was laid through implementation of a more traditional training program the Workforce Partnership operated with Mira Costa Community College and IDEC Pharmaceuticals between 2003 and 2006. This pilot project used a grant from California's Employment Development Department to train individuals for jobs as biotechnology production technicians and operators. The success of this pilot gave the stakeholders confidence in the Workforce Partnership's ability to manage a partnership program with the biotechnology industry.

"As people began to look at growing industries, growing jobs, and high wage jobs in the San Diego region, the biotechnology industry kept popping up on their radar screens as an industry we really ought to be training people for."

- Mark Cafferty, President and CEO, San Diego Workforce Partnership, Inc.

Challenges

The LSSI program faced two key challenges:

1. **Growing the program.** The first year the program only placed 13 student interns in eight companies. LSSI staff had to go out and visit companies to find out what the program needed to do differently in order to meet their needs. The teacher externship program presented different challenges. The LSSI program had to sell people on an entirely new concept. In the end, the LSSI program found it needed a year-round recruitment effort to find the right students, the right teachers, and the right companies to participate.

⁸ Both the entity that operates a region's employment and training programs and the board that oversees that entity are referred to as the Workforce Investment Board, or WIB.

2. **The amount of work required.** The LSSI program is very staff intensive. It has proved impossible to automate the process of recruiting and screening applicants and identifying internship positions. Part of what the companies are buying is the LSSI's individualized screening service.

“What the biotechnology companies are buying is the staffing of the whole labor exchange between the individuals applying and the companies who are participating.”

- Mark Cafferty, President and CEO, San Diego Workforce Partnership, Inc.

Replication

Much of the **LSSI program** can be transferred wholesale and replicated in other regions:

- The biotechnology boot camp,
- Student internships, and
- Teacher externships.

In addition, the **LSSI model** could be used with other non-biotechnology industries – particularly other science-based industries and the healthcare industry – in order to create the pipeline of scientific workers most regions need. While these programs are costly, they may well prove to be less costly than importing workers from overseas.

“I think that everybody who is doing workforce development in a region that has a solid base of scientific workers should be focusing on this in some way, shape, or form.”

- Mark Cafferty, President and CEO, San Diego Workforce Partnership, Inc.

Internship and externship programs are important because of the ties they build between industry and workforce development. Industries need to recognize that training and skills development are partly their responsibility, and that ultimately, participation in programs such as these will benefit their bottom lines.

Workforce development organizations, local government, and economic development agencies do not have to serve as the primary facilitators or operators of internship and externship programs if resources are a barrier. Rather, workforce development programs, including internship and externship programs, should be part of any comprehensive economic development strategy in a region. As regional partners come together around recruiting new businesses or supporting business expansion, the LSSI can serve as a model for talent development that uses the real-world experiences and skills of industries.

SILICON VALLEY SOLAR INDUSTRY-DRIVEN REGIONAL COLLABORATIVE *Linking Emerging Industry, Workforce Development, and Training*

Everyone is talking about the green collar workforce. Presentations have been made to Congress about the hundreds of thousands of new jobs that will be created as the United States switches to greener business processes and greener energy systems. It is not known whether a switch to greener business processes will result in a net increase or a net decrease in jobs. However, the movement to greener energy systems is resulting in **new jobs today**: developing and installing these new energy systems. And these new jobs are resulting in **new roles for the workforce development system**: assessing the new skills required for these jobs and proactively delivering appropriate training programs.

Program History

The NOVA WIB – which works on behalf of a seven-city consortium composed of Cupertino, Los Altos, Milpitas, Mountain View, Palo Alto, Santa Clara and Sunnyvale – has often been recognized as a source of innovative ideas for promoting workforce development. Its green collar initiative, however, is not only innovative in its workforce solution, but also in the industry it is helping to create and support: the emerging solar industry.

The Silicon Valley Solar Industry-Driven Collaborative (Collaborative) was formed in 2007 to address the intersection of multiple needs: the community colleges needed students; the solar industry needed installers; the workforce organization needed training and job opportunities for its customers; and local government needed gainfully employed residents.

The Collaborative developed a curriculum in solar photovoltaic design and installation for six community colleges in Silicon Valley that had the programs, faculty, and facilities to deploy rapidly. The curriculum includes modularized classroom instruction (approximately 80 to 120 hours) and a significant paid internship (320 hours), and is delivered in an accelerated, flexible format. Currently, the program prepares students for an entry-level certification exam administered by the North American Board of Certified Energy Practitioners (NABCEP); it will be expanded later to include preparation for NABCEP's higher-level certification exam.

Partners and their roles in the Silicon Valley Solar Industry-Driven Collaborative are:

- **Center for Applied Competitive Technologies, De Anza College:** project management;
- **Silicon Valley Leadership Group:** advisory liaison to industry;
- **SolarTech:** industry partner, evaluation criteria, curriculum development, participants, interns;
- **NOVA WIB:** internships, workforce outreach;
- **Workplace Learning Resource Center, Mission College:** assessment, intake, screening;
- **Applied Science and Technology, San Jose City College:** credit program development;
- **Community Education and Economic Development, Cabrillo College:** credit program;
- **Advanced Transportation Technology and Energy, West Valley College:** curriculum development; and
- **Sustainability Institute, Ohlone College:** curriculum deployment.⁹

⁹ DeAnza College, <http://www.deanza.edu/cact/svsolaridrc/>.

The first cohort of participants received training Spring 2008, with classes in installation and paid internships for graduates.

Program Results

NOVA views the Collaborative as a demand-driven program, with a primary goal of meeting the industry's needs. NOVA's participation as convener and broker in the Collaborative, however, is funded by WIA dollars, which means that the program must meet the government's common measures. Thus participation in the Collaborative is part of NOVA's overall effort to balance its role of overseeing the management of one-stop centers (which are focused on helping individuals find jobs) with working with industries on more innovative programs.

"The idea of using the demands and needs of businesses as guidelines for how NOVA develops programs is not new. Supporting the innovation of industry through workforce development has always been part of NOVA's mission."

- Mike Curran, Director, NOVA

As part of this balancing act, NOVA plans to use the number of participants placed in industry-sponsored, solar voltaic technician internships as its first measure of success. Later, success will be defined by the number of interns that are hired. Eventually, success should be measured by **the program's impact on companies' bottom lines** – the program's brokering and skill development components should lead to a reduction in hiring and training costs, while its provision of well-trained workers should produce an increase in revenue.

Program Funding

The Collaborative was funded initially by a community college grant to create a curriculum and an industry-recognized certification program. Future funding, however, depends on the industry recognizing that the program makes finding, training, hiring, and retaining workers easier and less expensive, and then agreeing to "pay to play." Participating solar companies will support the development of the curriculum, provide materials to the classes for training, pay the workers during the internships, and agree to hire the graduated and certified workers.

NOVA is aware that its ability to fund innovative, demand-driven programs is quite limited. NOVA used to receive about 15 percent of its funding from foundations, but that money is drying up at the same time that government funding is being reduced. NOVA is in the sixth month of a three-year effort to build awareness in its business and local government communities about the need to support demand-driven workforce development programs. If that fails, NOVA expects that it will become progressively less able to meet the region's workforce needs.

"We're in the sixth month of a three-year effort to make people understand that you can't be relevant to a business community if you only focus on the people who aren't working. You need to be where the action is so that you can pull people in."

- Mike Curran, Director, NOVA

Stakeholder Reaction

There is complete alignment between NOVA's stakeholders and the Collaborative program's stakeholders. The perspective of the NOVA WIB (NOVA's board responsible for oversight of all WIA programs) is that business demands drive the labor market, and the labor market drives how workforce development proceeds. The Collaborative program, therefore, fits perfectly within this design.

"In 1983, when I first met with the members of the Private Industry Council [the equivalent of the WIB under prior workforce development legislation], they asked me who our customers were. Are they the job seekers or the businesses? In the end, we agreed that our customers had to be both."

- Mike Curran, Director, NOVA

The NOVA WIB's focus on demand-driven workforce development programs has led to a strong focus on labor market intelligence (LMI). NOVA invests in LMI studies of its strongest industry clusters (which are mostly innovation sectors), with a focus on the jobs and skills that will be required in the future. NOVA then uses this information to create a dialogue among the education, business, and job-seeker communities, with NOVA serving as the intermediary.

Gaining support for the Collaborative project has taken NOVA far outside of the traditional workforce development role, with NOVA participating in efforts to **build the demand for and facilitate the supply of solar energy in the region**. This has involved:

1. **Educating individuals** about the costs and benefits, and the return on investment of using solar energy. In the big picture it is about global warming; in the small picture it is about reducing the size of individuals' electric bills.
2. **Streamlining the permitting process**, by making the process and its fees consistent across the various local jurisdictions.
3. **Changing the role of inspectors** from policing to facilitating. Focusing them on improving the process in ways that make it work for the consumer, the installer, and the city.
4. **Creating a loan pool** so that individuals can borrow the money needed to install the expensive solar energy systems.

Challenges

The four biggest challenges to the Collaborative program and others like it are:

1. **Funding.** Finding funding takes a great deal of the energy of NOVA's staff and WIB.
2. **Small businesses.** Because many of the innovative partners are so small, they rarely have the ability to help with assessments, planning, curriculum design, or other kinds of input. Their knowledge and experience, however, are required for a meaningful program.

3. **Companies' self interest.** Some companies fear that their investments in developing a training program might not be in their long-term financial interests, as their competitors also would have access to the trained workers.
4. **Case managers.** Many workforce counselors in the public sector are not experts about how the economy is changing. They may not know how to communicate the availability of opportunities and training in emerging industries.

NOVA has not been deterred by these challenges. NOVA is addressing the case manager problem, for example, through a foundation grant to train social service workers to become better job counselors and help clients use career ladders to move out of poverty.

Replication

The Collaboration, then, serves as a model for how workforce organizations can use partnerships to create demand-driven programs.

From NOVA's perspective, understanding the needs of the economy is the only way to "do workforce development" correctly. The mandate for workforce development has changed. To do their jobs well, workforce organizations need to know businesses' needs, education's offerings, and workers' skills and abilities. Workforce organizations must be conveners, matchmakers of the economy, and advocates for individual prosperity.

"Any WIB that doesn't try to understand which sectors drive its economy is short-changing its community."

- Mike Curran, Director, NOVA

WIRED IN NORTH CENTRAL CALIFORNIA

Small Business Development and Workforce Opportunities

North Central California has recently become a hot area for public-private partnerships and WIB-led economic development. The region, composed of two WIBs – the Northern Rural Training and Employment Consortium (NorTEC) and the North Central Counties Collaborative (NCCC), is a sixteen-county area that covers about 39,388 square miles, or a little over 25 percent of California’s geographic area (155,959 square miles). While the land mass is large, the population is small, just 1,027,895, or 2.8 percent of California’s total population of 37,152,015.

Program History

NorTEC and NCCC (as subcontractor) received a Workforce Investment and Regional Economic Development (WIRED) grant from the U.S. Department of Labor’s ETA on January 17, 2007. The grant created the Northern California Regional Competitiveness Network (NCRCN), a project to foster and develop entrepreneurial talent and business development in the region.¹⁰ **This was not to be just another program, but a radical restructuring of how the WIBs did business.**

The two WIBs are supported in the project by the region’s small business development centers and regional EDOs. Together, these entities are focusing on four industry clusters – information technology, agribusiness/agritech, niche manufacturing, and small business entrepreneurs – and are concentrating on the following three components:

- 1. Public/Private Partnership** – Building a coordinated effort between the public and private sectors to help develop and implement a core services program:
 - Providing direct business service assistance to identified entrepreneurs and the targeted industry clusters;
 - Designing and implementing regional support programs to foster entrepreneurial growth; and
 - Organizing an angel investment network to fund promising local businesses.
- 2. Infrastructure** – Identifying and addressing the local and regional physical and soft infrastructure needs that affect the regional economy, specifically those that impact entrepreneurship and the targeted industry clusters:
 - Coordinating with the telecommunication, highway, and other hard structures needed to support emerging and expanding businesses; and
 - Providing industry analysis, market development, and other advisory services.

NorTEC Counties:

- Butte
- Del Norte
- Lassen
- Modoc
- Plumas
- Shasta
- Siskiyou
- Tehama
- Trinity

NCCC Counties:

- Colusa
- Glenn
- Humboldt
- Lake
- Sierra
- Sutter
- Yuba

¹⁰ The complete WIRED Plan for North Central California is available on line at http://norotec.org/cb/wired_events.html.

- 3. Talent Development** – Meeting the needs of entrepreneurs, the targeted industry clusters, the workforce, and the professional staff developing and delivering services, by delivering timely information, training, and education:
- Providing information, education, and training assistance to encourage, develop, and assist entrepreneurs and the targeted industry clusters;
 - Providing in-service training to meet professional staff development needs; and
 - Providing education and training needed to develop a skilled workforce.

These three prongs became the responsibility of the WIB staffs and their regional partners. The project's public/private partnerships were aligned with other large-scale business services already implemented across the different counties. Capital investors, seeking refuge from a slumping national economy, were very interested in looking locally for new ventures.

Infrastructure programs capitalized on the community economic development strategies already developed by the region's EDOs, and further targeted investments of both public and private sector funds. Talent development brought in the community colleges and training organizations with targeted training for the entrepreneurs and the emerging industry clusters.

The NCRCN WIRED grant has provided a catalyst for collective action in this area of relatively high unemployment, low population density, and recent economic downturn. The 16 counties were already collaborating, but the WIRED grant took it to another level.

The NCRCN project has become the core mission of both NorTEC and NCCC. Both have risked lower metrics in their one-stop career centers by focusing on the planning and execution of the NCRCN project's broader agenda.

Program Results

Because a WIB is at the hub of the NCRCN project and its exciting array of programs, data can be collected reliably and tracked over time. The NCRCN project found that the old way of accounting for WIBs' impacts – the common measures – did not serve the purpose of the new way of doing business.

Common measures must be reached in order to meet the requirements of the federal funding (and the NCRCN project is exceeding its goals three times over), but the true value of the project requires creating new measures that calculate impact on economic development. As long as only employment goals are measured, much of the project's value is ignored.

WIRED Metrics and Expected Outcomes	
Measures	Outcomes
Business Impact/Entrepreneurship	
Number of Business Startups	150
Number of Business Expansions	75
Number of Businesses Utilizing Incubators	15
Amount of Business (“Risk”) Loans	\$5,000,000
Training/Education Related Activities	
Number of Individuals Who Began Education/Training Activities	1,500
Number of Individuals Who Completed Education/Training Activities	1,200
Number of Individuals Who Attained Degrees or Certifications	750
Number of Individuals Placed in Target Industry Employment	1,000
Number of Individuals Placed in Post-Secondary Education or Certificate Programs	50
Average Wage at Placement* based on LMID	\$12/hr
Capacity Building	
Number of New/Expanded Industry Courses Available	50
Job Creation	
Number of New Jobs Created in Targeted Industries	450

*The \$12 an hour average wage at placement is a minimum, based on historical data.

Program Funding

The NCRCN project received a WIRED grant of \$5 million over three years. This was leveraged by other U.S. Department of Labor grants to the WIBs, community development block grants from the U.S. Department of Housing and Urban Development, capital from the investment firms, financial and in-kind support from the EDOs, training support from the community colleges, and funds from other financial partners, including banks and local governments.

Several counties (Colusa for example) set up revolving loan funds for small business development. The WIBs wrote the loan terms and developed the lending process, and the business services staff made the loans to small businesses. Nonprofits have been playing a funding role as well. They have raised funds through private foundations to set up micro-lending programs for business start-ups.

Private investment is a key feature of this project. Golden Capital Networks has been a leader among investment firms in recognizing profitable opportunities in public/private partnerships. It has set up venture communities around the state that provide a variety of business support services for entrepreneurs, with angel investment and venture investment options further down the road, and is playing a role in North Central California as well.

Stakeholder Reaction

The NCRCN project stakeholders (meaning the boards, senior staff, nonprofit and business partners) were not only supportive of the demand-driven approach to workforce development; they initiated and created the focus on business. Since the 1990s, both NorTEC and NCCC had

relationships with the area's EDOs. As the WIBs and EDOs developed relationships around common goals, it became easier to think in terms of broad regional initiatives such as WIRED.

NCCC has long viewed business development as the key to workforce development. Since 2000, NCCC's primary role has been providing human resources support for businesses. Many of the NCCC staff spend their time getting out to employers, finding out about their needs, and helping them meet these needs. NCCC's business services employees frequently serve as companies' human resources departments, helping to develop hiring programs, training manuals, career improvement plans for those already employed, and other types of training programs.

"NCCC began its close relationship with the region's economic development organizations during the Northwest Economic Adjustment Initiative. This initiative, which was funded by the U.S. Department of Labor, the U.S. Department of Agriculture, and the U.S. Economic Development Administration, was designed to address the decline in the timber industry and the displacement of workers resulting from the spotted owl's placement on the endangered species list."

- Stewart Knox, Executive Director, NCCC and Program Manager, NCRCN

Challenges

The two WIBs leading the NCRCN project faced two key challenges:

- 1. Staff.** Because the NCRCN project represented a culture change for the WIBs, it was difficult for staff to switch from managing the cases of individual job seekers to serving businesses. The WIBs addressed this by re-educating the staff. They provided training on how to deliver human resources or loan management services to businesses.
- 2. Boards and interest groups.** Board members and representatives of particular client groups were concerned that the WIBs were abandoning their core constituencies of the unemployed, the dislocated, and the disabled. WIB directors helped them understand that these core constituencies were not being ignored; the personal relationships formed through networking and frequent contact with businesses were what enabled the WIBs to make the difficult placements.

Thus, while many board members, staff members, business and nonprofit partners were initially supportive of this change in culture, there has been a process in changing the hearts and minds of those who had long been used to the old WIB-way of doing business.

Replication

Regions interested in replicating the NCRCN project need to understand their own economic strengths and weaknesses. They should conduct cluster analyses that draw on economic and labor market information to predict winners and losers. Regions must understand which industries will be high wage, and to what extent training and skills development will be required.

Projects like the NCRCN require that multiple partners, each with a role in improving the state of the region's economy, work together and support each other. Funding is essential to replicating

the program as well, not just funding for programs and staff, but capital for business investment. Access to capital needs to be available at each point in the business development process.

The NCRCN project represents significant change, and change requires courage and leadership. WIBs that want to move beyond the old social service model need to recognize that helping businesses grow is good for the poor, unemployed, and disabled, too. **Demand-driven projects expand the economic pie, and that ultimately benefits all of a region's residents.**

SACRAMENTO'S TRANSIT TRAINING PARTNERSHIP PROGRAM *Creating Green Collar Jobs Through Unique and Powerful Collaboration*

The Sacramento Employment and Training Agency (SETA) wears several hats: Head Start contract administrator, Community Services Block Grant distributor, refugee service provider, and, most relevantly, the city and county's WIB.

Operating as an independent, nonprofit, joint-powers-created agency, SETA has the flexibility and entrepreneurial spirit to convene innovative partnerships and develop non-traditional workforce development programs.

Program History

SETA created the Transit Training Partnership Program (TTPP) – an innovative partnership among the California Labor Federation, the Sacramento County Office of Education, American River College, Holt Caterpillar Company, Sacramento Regional Transit District, and the Santa Clara Valley Transit Authority – in response to two problems:

- 1. A shortage of transit mechanics.** The region's transit mechanics were mostly from the early baby boom period, and their imminent retirements were a source of worry. New workers needed to be recruited and trained.
- 2. Air quality.** Part of the onus for cleaning up the air in the internal valley of California rested with the transit authorities. Transit mechanics that were not retiring needed to be trained in green technology.

The TTPP evolved over time. Initially, WIA discretionary funds were used to support coordination among all of the disparate partners and conduct a study of the secondary schools and community colleges in the service area to determine students' interest in and ability to enter into automotive and transit careers. By coordinating with the state department of education, which was involved in launching a major overhaul of career technical education, the partners created a tailored, technical education approach that responded to the multiple agendas of business, labor, and education.

This first grant also funded a diesel mechanic training program in an abandoned machine shop on the old Mather Air Force base. Holt Caterpillar donated half of the engines that the diesel mechanic students worked on and the Sacramento County Office of Education provided career technical education to 20 students using the Holt Caterpillar curriculum in diesel maintenance.

More recently, WIA discretionary funds were granted to a partnership between the local California Labor Federation (CLF) and the Sacramento Regional Transit District for training implementation. This second grant, awarded to the CLF, trained incumbent workers from the Sacramento Regional Transit District and Santa Clara Valley Transportation Authority in clean diesel technology. CLF subcontracted with SETA to conduct contracting, eligibility, customer tracking, monitoring, and reporting for the two transit authorities.

Sacramento's Transit Training Partnership Program

The program is currently training 180 mechanics. **When the grant ends, the training program will be institutionalized as part of the union/management training programs on site at each of the two transit authorities, and will be approved as a college credit course.**

The TTPP partners and their roles are:

Local Partners	Roles and Responsibilities
Sacramento Regional Transit District	Employer. Develop project. Pay for and oversee the skills gap analysis through the labor-management partnership. Oversee the entire project through the labor-management partnership. Provide trainers and training.
Sacramento Employment and Training Agency (SETA)	Local WIB. Connect CLF with education partner and facilitate communication between all partners. Provide eligibility determination, intake, enrollment, participant tracking, fiscal services, and technical assistance for the two training sites.
Sacramento One-Stops	Provide outreach, recruitment, screening and referral for new hire positions.
Los Rios Community College District	Training provider.
American River Community College	Training provider. Develop apprenticeships.
AC Transit	Training provider.
International Brotherhood of Electrical Workers (IBEW) Local 1245	Worker representative. Develop training program, recruit and mentor participants, and oversee retention, continuous improvement, etc.
Valley Transportation Authority	Employer. Develop project. Provide skills gap assessments, testing, and troubleshooting, and pay for and provide trainers and training facilities, including break-out, classrooms, computers, etc.
Amalgamated Transit Union Local 265	Worker representative. Develop training program, recruit and mentor participants, and oversee retention, continuous improvement, etc.
California Transit Association	Statewide transit association. Partner in transferring best practices and expanding the labor-management training partnership model to a statewide consortium.
Community Transportation Development Center	Partner in transferring best practices, providing technical assistance, facilitating labor-management partnerships, and expanding the labor-management training partnership model to a statewide consortium.
California Labor Federation AFL-CIO, Workforce and Economic Development Program (WED)	Serve as grant recipient and interim convener to connect the two regional projects, facilitate communication, align the local WIBs, and help address challenges.
Silicon Valley Leadership Group (SVLG)	Regional business association. (Founded in 1977 by David Packard of Hewlett-Packard, the SVLG represents more than 200 of the Silicon Valley's most respected employers in efforts to address some of the region's major public policy issues.) Assist in accessing education and curriculum development resources through the SVLG's members.

Program Results

The TTPP has a **retention rate of 94 percent** and a **job-placement rate of 100 percent**.

However, the project was also about **change**:

- The transit industry was responding to bio-diesel changes in their systems, while helping to support **management-labor collaboration**.
- SETA took on the role of broker between labor, business, education and the state to both **leverage funding** and **foster planning** around common goals and objectives.

"We're changing how training is done in the industry. Whereas before Regional Transit or the International Brotherhood of Electrical Workers would have done the training themselves at their sites, now they are actually sending people to the community college classes. The public workforce system is becoming a partner in the training."

- Robin Purdy, Deputy Director, SETA

Program Funding

Both the first and second stage of the TTPP were supported with \$600,000 grants from the WIA Governor's Discretionary Fund, money that is set aside for high wage jobs in high need areas. While this funding source is not unique, its use creating partnerships is. SETA has brought together labor, education, government agencies, transportation agencies, nonprofits, and the workforce investment agencies to provide needed training **and** needed infrastructure improvements both locally and across a broad region.

This kind of grant-funded approach to workforce development represents an innovative way to stretch shrinking available funds for broader use. The result is a synergistic advancement in how WIBs can conduct their work.

Stakeholder Reaction

The SETA WIB has been actively pushing the organization toward demand-driven workforce development since 2004. The WIB took the leadership role and initiated the organization's strategy of using data collection and economic development analysis to determine the most effective way to train people for good-paying jobs. The local chancellor of the community college district and a senior executive for the local Manpower company were both on the WIB, and both encouraged SETA to collect the data needed to match job seekers with the kinds of high wage, high growth jobs available in Sacramento.

"The Manpower executive on the WIB pushed us to know what jobs and industries were going to be growing, what jobs we were going to have here in ten years."

- Robin Purdy, Deputy Director, SETA

The forces that brought labor and industry, the WIB, the government, and the education system together are unclear. Perhaps the necessity for workers pushed the partners together. Perhaps it

was the availability of funds. However, the relationships are now well established. SETA considers that creating such partnerships is a one of its key responsibilities, and the kind of synergy that comes from these partnerships is a primary component of SETA's success.

Challenges

TTPP faced two key challenges:

- 1. The Workforce Investment Act (WIA).** Because the funds used for training are subject to the fairly rigid eligibility requirements of WIA, it was difficult to find people qualified for the program. SETA sent staff to Santa Clara County (about 100 miles away) and to the transit districts' human resources departments to find people who would qualify for the program. Usually, WIBs advertise programs and wait for qualified candidates to show up. In this case SETA had to be more proactive in its recruitment efforts.
- 2. Bureaucratic inertia.** Whenever a new program comes along, just getting people to pay attention and implement it can be difficult.

Replication

Because SETA was not the catalyst for TTPP, the project may not provide the best model for replication. SETA just happened to be in the right place, at the right time, and with the right partners to make the project work. TTPP was a really good idea that everybody worked on together.

One could argue that it is the mark of great collaboration if partners feel like they are all in it together as a team. Many of the project partners had known each other or worked together on other projects, so when the availability of WIA discretionary funds arose, the partners could quickly pull together a plan that not only served a need, but also further cemented their relationships.

Replicating this project would not mean replicating a transit training program, it would mean forging together a **real** collaborative of partners who mutually reinforce each other and support each other's primary agendas.

"People came to us and said, 'We want to make this happen, can you help us?' The labor federation came to us, the transit authorities were open to it; the community college was already a partner. We were just open to a need in our community and were trying to be a good partner."

- Robin Purdy, Deputy Director,
Sacramento Works

NANOTECHNOLOGY PARTNERSHIP PROGRAM

A WIB Helps Take the Lead on New Technology

Nanotechnology is the cross-industry process of working with materials at the very small, sometimes atomic level. It experiments with how substances and materials behave differently at the microscopic level and attempts to form commercial uses from these new scientific insights. Nanotechnology is used most in consumer electronics, pharmaceuticals, biofuels, and an ever-growing number of industries whose production methods include advanced manufacturing.

Program History

The Silicon Valley Workforce Investment Network (Work2Future), the WIB for an eight-city area that includes San Jose, has often been recognized as a leader in new strategies and successful projects in workforce development. One of Work2Future's new approaches is a mutually beneficial partnership program with the newly emerging nanotechnology industry.

Until very recently, Work2Future had its San Jose one-stop center located in East San Jose. This was a good location for working with job seekers, but a poor one for reaching the business community. As Work2Future became more demand-driven, it decided to move this one-stop to the business district and expand its relationships with the business community. When it opened the new one-stop, the center not only hosted the traditional workforce entities (Job Corps, and the Employment Development Department, for example), but also a number of business associations, including some of the chambers of commerce in the region.

Just as this one-stop was opening, the International Association of Nanotechnology (Association) was applying to the U.S. Department of Labor for funding to develop a training program addressing the shortage of skilled nanotechnology workers. The Association needed Work2Future to sign off on its grant application, and from this initial meeting about the application, a strong collaboration was formed.

The Association became one of the business associations that set up its offices in the new one-stop. Because of the two organizations' proximity, Work2Future is at the table with the Association when the Association is seeking grant funding, offering services to its member companies, or advocating for the nanotechnology industry. Work2Future attends conferences with the Association, and talks about the workforce component of expanding the nanotechnology industry. The Association hosts monthly forums in the one-stop, with a guest speaker and opportunities for networking, and Work2Future staff attends those as well. The close

“Nanotechnology is something that cuts across a lot of different industries and sectors. It takes innovations being developed in other sectors and makes them a lot smaller. The best example in nanotechnology is probably the iPod. The iPod replaced the boom box. It allows people to walk around with something the size of a cigarette pack in their pocket and a plug in their ear and listen to 10,000 songs or other podcasts. Nanotechnology is one of the industries moving the economy forward.”

- Ray McDonald, Special Projects Manager,
Work2Future

collaboration is cemented with the Association's executive director serving on the Work2Future WIB.

The Association did receive the U.S. Department of Labor grant, and is operating its training institute out of the Work2Future one-stop. Two tracks are offered, one informing high technology workers about opportunities in the nanotechnology industry, the other, a laboratory class, providing training on how nanotechnology can be used to benefit other industries.

The Association recognizes that Work2Future will be important for nanotechnology's next stage of development. As nanotechnology moves from research and development to science and production, companies will need to start hiring new people with entirely new sets of skills. **Work2Future can help ensure that the community colleges and other training providers start developing the programs that will be needed and get the pipeline in place now,**

Because of its close relationship with the Association, Work2Future was able to convince Nanosolar, a company that used nanotechnology to decrease the size of solar panels, to locate in San Jose. Work2Future then helped the company acquire a \$300,000 Employment Training Panel grant (State of California training dollars companies can use to train workers) to train its employees.

Another company, Solopower, will be locating its administrative quarters in the Association's offices (and therefore in Work2Future's one-stop) and its manufacturing facility in San Jose. These two companies are just examples of Work2Future's effort to reach out to new industries – clean and green industries, nanotechnology, bioscience, industries with the promise of a lot of new jobs – to replace the traditional high technology industries that had been the mainstay of Silicon Valley.

Program Results

The Nanotechnology Partnership Program is not a traditional program that can be evaluated with traditional measures. Instead, Work2Future is now establishing a baseline and setting up a system to measure success and the return on investment from programs such as this one.

While some of these measures are not quantifiable, Work2Future is considering them as gauges of success:

- The **number of collaborations and partnerships** that are developed.
- The **quality of these collaborations:**
 - The degree to which Work2Future and the partner have developed a **common culture and common goals;**
 - The degree to which Work2Future and the partner are providing **integrated services;**
 - The number of Work2Future's clients that are also receiving **services** from the partner organizations; and
 - The number of collaborations and partnerships that result in **joint applications for funding.**

- The number of Work2Future **job placements** in collaborative industries:
 - The quality of these job placements (livable wages in high growth industries).
- Work2Future’s ability to **maintain its level of services** despite lower funding allocations and funding rescissions.
- **Customer satisfaction.**

Program Funding

Program funding can be thought of on many different levels. First is the \$1.5 million that the Association received from the U.S. Department of Labor for its nanotechnology training program. This national grant includes industry, education, and workforce organization partners from around the country.

Second is the funding that Work2Future uses to support its partnerships with nanotechnology and other high technology industries. Staff working on these projects charges some of its time to rapid response funding (WIA funds that can be used for layoff aversion programs, as well as non-training assistance to dislocated workers seeking re-employment) and some to WIA adult, dislocated worker, and youth training funding, as part of job development activities. Because Work2Future is actually a part of the City of San Jose’s Economic Development Department, some of the staff’s work in this area fits within the overall structure of that city department.

Work2Future recognizes that it has to depend less on U.S. Department of Labor funding and more on funding it is able to generate through collaboration activities. The future is in diversification, and Work2Future is looking at community foundations, local governments, community development block grants, and other entities as sources of funding as well.

International Association of Nanotechnology U.S. Department of Labor High Growth Job Training Initiative Grant Partners:

- Global Crown Capital,
- Combimetrix, Inc.,
- Nanogram, Inc.,
- Quantum Sphere, Inc.,
- Antibodies, Inc.,
- SDC Materials, Inc.,
- NanoScience Exchange,
- California Manufacturing Technology Consulting,
- National Hispanic University,
- Berkeley City College,
- State of California Workforce Employment Training Panel,
- Alameda WIB,
- NOVA WIB,
- San Jose WIB,
- NASA Nanotechnology Center,
- Molecular Foundry at Lawrence Berkeley National Laboratory,
- California Community College Economic and Workforce Development program, and
- Institute for Community Inclusion-University of Massachusetts-Boston.

Stakeholder Reaction

The Work2Future WIB drove the organization's decision to place more emphasis on business as a customer and move the San Jose one-stop from East San Jose to a more business-friendly location. Now, both the business community **and** job seekers are part of Work2Future's official mission statement, goals, and yearly work plans.

Work2Future's shift in emphasis probably was eased by the fact that the Work2Future employees were already employees of the City of San Jose Economic Development Department. In fact the Work2Future Director also has the title of Deputy Director for Economic Development in San Jose.

Work2Future's business alignment is also evident in its partnership with 40 other agencies that serve businesses in Silicon Valley and operate under the common banner and branding of "businessownerspace.com." Through this partnership, Work2Future is able to use all 40 agencies to help spread the word about the region's workforce system.

Work2Future does have a stakeholder issue relative to nanotechnology, but this issue is larger than Work2Future itself. While Work2Future's territory is eight cities in Silicon Valley, the region's nanotechnology cluster encompasses all of the San Francisco Bay area, potentially including nine workforce investment areas. Work2Future needs to decide whether it is ready to work with these other areas, and if it is, what it needs to do to get them engaged.

Challenges

The Nanotechnology Partnership Program and other Work2Future efforts to build collaborations with innovative industries faced three key challenges:

- 1. Developing trust.** Building a collaboration requires building trust among all of the partners. Every partner must feel that its goals and needs will be met by remaining in the partnership.
- 2. Staff time.** It takes time to understand the direction of the economy, take advantage of opportunities, and figure out creative ways to build collaborations. Staff needs to understand where an industry is going and what its issues are in order to develop strategies that complement its efforts.
- 3. Staff skills.** The skills required for building collaborations are different from those most workforce development professionals have. Staff must move from being

"I think the bigger challenge is getting staff to realize that business is a value customer; getting staff to realize that they have to develop initiative and try to 'catch the future.' They have to be forward thinking at all times."

- Ray McDonald, Special Projects Manager, Work2Future

Replication

Work2Future's Nanotechnology Partnership Program can be replicated under certain conditions. First, the region must have the right economy. The economy must be a diversified and not rely on a single industry for employment.

Second, it can be replicated if the right players are involved. In addition to the workforce agency, the collaboration requires participation from EDOs and business associations.

Third, the people forming the collaboration need to get along. They must trust each other and trust that their interests will be met through participation. It is the WIFM – What's in it for me? – factor. Everyone has to have an investment in the effort, and each organization will only have an investment if the effort will have a positive benefit for it.



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