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Building Institutions from the Region Up:

Regional Workforce Development Collaboratives in California

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Assessment of the Collaborative Regional Initiatives Program

Supported by a grant from the James Irvine Foundation

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Building Institutions from the Region Up: Regional Workforce Development Collaboratives in California

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EXECUTIVE SUMMARY

Introduction

Policymakers have long puzzled over how to link workforce development to economic development. By itself, workforce development is not a complicated policy problem. An established literature explains what works and what doesn't work, showing that organizations must link training closely to employer needs and offer a mix of technical and soft skills training.[1] Workforce development only becomes complex when linked to economic development goals, particularly regional economic growth and competitiveness. In addition to its traditional goal of helping economically or educationally disadvantaged people access employment opportunities, programs must also help businesses become more competitive and expand—and adapt their preferences in workforce hiring. It is not impossible to meet both workforce and economic development goals simultaneously, linking the supply and demand sides. A variety of workforce intermediaries have developed successful "dual-customer" models, such as the sector initiatives that serve both jobseekers and employers.[2] But multiple contradictions complicate efforts to link the two.

This study looks at a new approach to the problem of linking economic and workforce development—in particular, a theory of change proposed by a group of stakeholders from a variety of sectors (government, foundations, and the workforce development system) in the late 1990s. To meet the multiple goals of increasing economic opportunity, decreasing poverty, and increasing regional economic competitiveness, these experts advocated a new workforce development system that was collaborative in scope, regional in scale, career-oriented in focus, and data-intensive in

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[1] Grubb, W. Norton, *Evaluating Job Training Programs in the United States: Evidence and Explanations* (Berkeley, CA: National Center for the Study of Vocational Education, 1995). Chapple, K., M. Zook, R. Kunamneni, A. Saxenian, S. Weber, and B. Crawford. *From Promising Practices to Promising Futures: Job Training in Information Technology for Disadvantaged Adults.* (New York: Ford Foundation, 2000.) Soft skills are defined as "skills, abilities, and traits that pertain to personality, attitude, and behavior rather than to formal or technical knowledge" [Moss, P.I. & Tilly, C., *Stories Employers Tell: Race, Skill, and Hiring in America.* (New York: Russell Sage Foundation, 2001.)]

[2] Giloth, R., ed., *Workforce Intermediaries for the Twenty-first Century* (Philadelphia: Temple University Press, 2004); Zandniapour, L. and Conway, M., *Gaining Ground: The Labor Market Progress of Participants of Sectoral Employment Development Programs,* SEDLP Research Report No. 3 (Washington, DC: Aspen Institute, 2002).

strategy. This study examines five cases that broadly follow this model of regional collaboration in order to determine how effective they are at problem-solving.

The California Center for Regional Leadership (CCRL), the James Irvine Foundation (JIF), and the California Employment Development Department (EDD) worked with organizations to produce proposals that developed career progressions and identified partners and funding. Four organizations—three Collaborative Regional Initiatives (CRIs) and one community college that was formerly part of a CRI—were selected in March 2001. Of the CRIs, Fresno Area CRI was to train in occupations related to its water technology cluster; Gateway Cities Partnership (GCP) was to train in logistics; and Orange County Business Council (OCBC) was to train in information technology. Cabrillo College—formerly part of a CRI called the Santa Cruz Clusters Project—created the Watsonville Digital Bridge Academy (WDBA) also to train in information technology.

This study compares these four workforce demonstration projects with another regional workforce development collaborative, the San Francisco Information Technology Consortium (SFITC). SFITC, which is funded in part by the James Irvine Foundation, consists of a network of community-based organizations and community colleges offering entry-level computer training, job placement, upgrade training, and needed social support to current and prospective IT workers.

Based on 40 interviews with collaborative leaders and key informants, as well as review of related documents, this study asks whether the CRIs organize problem-solving around workforce development more effectively than do other collaboratives. It finds that regional collaboration is not well suited to addressing both workforce and economic development goals; however, it can make workforce development programs more effective if partners from both inside and outside the current system are engaged in a networked structure with clear roles and responsibilities, as opposed to a collaboration on paper. The report looks first at how organization structure (origin, mission, and organization), economic development focus, program design, and collaborative style shape program and other outcomes such as adaptiveness, ability to mobilize resources, and system change. A final section addresses the potential for sustainability of these workforce development innovations and the policy implications that emerge from the comparison of collaboratives.

The Organizations and their Programs: An Overview

Although all of these organizations are regional in scope and collaborative in process, there is considerable variation in their institutional structure, even among the CRIs. Table 1 summarizes the organizational structure of these collaboratives. The CRIs are generally broader in scope than the two non-CRI workforce development programs (WDBA and SFITC). They bring a cross-sectoral approach to problem-solving, with

Table 1. Organizational Structure, Regional Workforce Development Collaboratives

Organization	Organization size	Organization structure	Board composition	Organization mission	ED approach	Use of information
GCP	5 staff	Centralized	Balanced representation from business, government, education	Regional economic revitalization and growth	Develop opportunities in logistics by creating low-skilled occupation	Initial cluster analysis
Fresno	4 part-time staff	Decentralized	Balanced representation from business and education; minimal government representation	Economic competitiveness	Clusters; develop high-skilled manufacturing workforce through career ladders	Initial cluster analysis; employer focus groups and interviews
OCBC	25 staff	Decentralized	Business-dominated, minimal government and educational representation	Economic growth as key to quality of life		Initial cluster analysis; ongoing workforce supply/demand assessment; employer focus groups and interviews
WDBA	2 staff	Centralized	Community college	Economic development through education and workforce development	Help "under-prepared" students enter knowledge-based careers	Initial cluster analysis
SFITC	3 staff	Decentralized	CBO and community colleges; business advisory councils	Access to career pathways for disadvantaged	Develop career ladders in IT	Minimal

business generally playing an active role on committees, as well as a more intense focus on linking workforce development to economic development.

Each of these organizations has an underlying paradigm of economic development that guides their workforce development approach (Table 1). Some of these workforce development initiatives—in particular, Fresno Area CRI and OCBC—see economic development as an effort to increase the level of economic activity in the region by making businesses more competitive. For these organizations, workforce development is primarily a means to increasing business productivity, by improving the quality of the workforce available. The idea is to create a more competitive region so

that the disadvantaged will eventually benefit from faster growth. Others, including GCP, WDBA, and SFITC, focus not on businesses, but on the capacity of community members to participate in the economy. While this workforce development philosophy is also about making businesses more competitive, the idea is to do so by simultaneously shaping the demand and supply sides of the labor market—i.e., ensuring that low-skill jobs are available and offer a career ladder, and preparing underprivileged community members to fill the jobs. These economic development paradigms shape the governance strategy adopted—i.e., whether the collaborative works closely within the workforce development system or tries to change it from outside.

Table 2 summarizes the workforce development programs. Each of the factors or variables in the table has shaped the outcomes of the projects. Although it is not possible to rank the variables in order of importance, it is clear that funding, soft skills and placement efforts, and day-to-day project management each play a critical role.

Behind each of these regional workforce development programs is the idea that collaboration will make them more effective. Yet collaboration is very difficult, costly, and time-consuming. Forms of collaboration range from the exploratory process of identifying differences and developing shared purposes to the more formal process of joint decision-making with shared responsibility.

The CRIs tend to treat their partners more as clients than as collaborators. Although participation is generally broad, in most cases the CRI retains responsibility and ownership for the initiative. As one expert described it, "The CRIs deal with system partners, so they're kept invisible…For example, the CRI, in one case, shielded the business people from the Workforce Investment Board (WIB) and all the workforce mechanics because CRIs are conveners. This established a credibility in workforce development for people." The CRI working in this intermediary role shields partners from each other, convenes groups for specific projects, and retains ownership of the larger vision for changing the workforce development system.

At the other extreme are the other regional workforce development collaboratives. At SFITC, participation is much narrower, with only the training providers and WIBs involved. But ownership of the initiative, as well as overall accountability, is joint, formalized in memoranda of understanding and strengthened by an ongoing group dialogue. In general, responsibility and resources for implementation are shared among the partners, who have benefited from ongoing Irvine Foundation-funded technical assistance from consultants. At WDBA, participation is even narrower, with both design and implementation managed in-house. But like SFITC, WDBA consults on an ongoing basis with business and government partners. In contrast, dialogue for the CRIs tends to consist of CRI leadership negotiating individually with its partners, rather than full group meetings, which are only held at the project's onset.

Table 2. Workforce Development Program Characteristics

Organization	Program origins	Program funding	Program format	Target population	Soft skills	Placement efforts	Day-to-day management
Fresno	CCRL Clusters/WD project	$150,000 -- JIF, plus additional support from WIB	Community college coursework, summer internship and training academy (20 hours)	Community college students, high school students, one-stop participants, and incumbent workers	Minimal	Major	CRI
GCP	CRI head; CCRL Clusters/WD project	$600,000 -- CA governor's WIA discretionary funds, JIF, Mott	4 weeks, 100 hours	Disadvantaged adult community members	Extensive: integrated with technical curriculum	Major	WIB, Long Beach State, Mott/CCC (1st round); CRI, Mott/CCC (2nd round)
OCBC	McKinsey report; CCRL Clusters/WD project	$350,000 -- JIF plus community college matching funds	semester course	Community college students, non-English speakers, unemployed/underemployed	Minimal	Minimal	Community college
WDBA	Coalition for Workforce Preparation; CCRL Clusters/WD project	>$1,000,000 - JIF, Packard, Cabrillo College, NSF, City of Watsonville, SC HRA	3-week academy, semester course	"Under-prepared students": at-risk, minority, ex-felon, reentry, and foster care students	Extensive: integrated with technical curriculum	Major (into college, not jobs)	Cabrillo College
SFITC	SF DHS, PIC, and BAVC; Irvine Foundation	$4.5 million -- USDOL, CA governor's WIA discretionary funds, JIF, Jobs for the Future, Haas, Packard	3-6 months	Disadvantaged adult community members	Extensive	Major	SFITC

Outcomes

The workforce development projects produce a variety of outcomes demonstrating both program and organizational effectiveness. The principal program

outcomes—program completion and job placement—are dependent upon the collaborative participants. Another set of related, second-order outcomes, such as new relationships or projects, occur indirectly throughout the process of organizing and implementing the workforce development program. Finally, there are outcomes related to organizational capacity—the ability to mobilize resources, adapt to change, and influence system change (in this case, the state and local workforce development system). Variations in organizational structure, program design, and collaborative style, in part, explain the different outcomes from the projects.

Table 3 shows the outcomes for the workforce development programs. With the exception of the Gateway Cities Partnership and Watsonville Digital Bridge Academy projects, the projects fall short of meeting the placement goals they had established (typically with funders). This is not surprising. In the case of the CRI projects, the programs were demonstrations, and for SFITC, the job market for entry-level IT workers went into a dramatic tailspin shortly after the program began. Moreover, in the case of Fresno, OCBC, and SFITC, the poor numbers mask the progress that the programs have made as they have learned from previous mistakes. Finally, all of the programs, except perhaps for GCP, focused substantial resources on long-term goals, such as building organizational capacity, rather than placement.

Table 3. Workforce Development Program Outcomes

| Organization | Program outcomes | | | | | |
| | Timeframe | Enrollees | Graduates | | Placement | |
			Num	%	Num	%
Fresno	Two cycles	67	18	26.9%	18*	100.0%
GCP	Eight cycles	200	180	90.0%	144	80.0%
OCBC	Two cycles	49	30	61.2%	8	26.7%
WDBA	Two cycles	46	35	76.1%	35**	100.0%
SFITC	Many cycles	890	783	88.0%	390	49.8%

* Defined as placement into summer internships.
** Defined as enrollment into community college.

Related to the process of organizing and implementing the workforce development programs, the organizations have produced many second-order outcomes: new projects, relationships, and organizational capacity (Table 4). Another way of analyzing the programs' impacts are in terms of their ability to produce systemic change, influencing the way the regional workforce development system operates, mobilizing resources, and adapting to change. Although the programs experienced some similar outcomes in terms of new relationships and resources, the overall impacts of the programs vary along these dimensions.

Table 4. Outcomes Related to Workforce Development Programs

Organization	Related outcomes	Ability to mobilize resources	Adaptiveness	System change	Overall impact
Fresno	New relationships between business, WIB, and community colleges; new funding sources; new initiatives (Regional Jobs Initiative)	High	Medium	Medium	Medium
GCP	New relationships (employers WIB, CBOs, GCP); new training programs; new awareness of global logistics occupations	High	High	Medium	Medium
OCBC	New relationships between OCBC and community colleges; new funding leveraged from community colleges and JIF; new courses at community college; new initiatives (Regional Skills Alliance)	Medium	Low	Low	Low
WDBA	New relationships with government agencies; leveraged gov't money	High	Medium	Medium	Low/Medium
SFITC	New ladder of training programs with integrated curriculum; streamlined and centralized services; marketing; new employer relationships	Medium	Medium	Low	Low/Medium

Conclusion

At their best, the CRIs produce more effective program and system outcomes than the other collaboratives studied. But as relative newcomers in the complex landscape of the workforce development system, they may be more effective as catalysts for long-term system change than as implementers of workforce development programs. Unless CRIs are able to organize broad and flexible workforce development networks so they can tap into existing expertise and resources as needed, these collaborations function essentially only on paper and thus do not make CRIs more effective than other institutions.

Gateway Cities Partnership, as the most effective demonstration project overall, illustrates how the CRI approach to workforce development can create successful program outcomes. Although it is perhaps still too early to evaluate its success, the Watsonville Digital Bridge Academy is effective for similar reasons.

In terms of organizational structure, a more centralized approach seems to work better because it helps clarify responsibility for outcomes. Most critical are the elements of program design. Collaborative members must agree on a target population and provide appropriate soft skills training and placement assistance for that group; a strong economic development orientation in the organization helps target assistance effectively. Workforce development programs must be funded fully enough to run a true experiment; the $600,000 that GCP spent is likely an appropriate amount if the program is to have enough iterations to eliminate major flaws. Although the breadth and style of the collaboration may not matter, it is critical that experts from both business and community-based organizations (CBOs) familiar with disadvantaged jobseekers be involved. Despite narrow participation and/or centralized management, GCP, WDBA, and SFITC were all able to learn and adapt their programs relatively well, in part, because they maintained a network of collaborators to draw upon for input throughout the project.

In their workforce development programs, the other collaboratives lacked some of these critical ingredients and were thus less successful. However, their larger workforce development approach, of which the workforce demonstration program was one part, may prove to have long-term system impacts. In Fresno, GCP, and OCBC, the involvement of diverse stakeholders from across the business, government, and education sectors has facilitated the replication of workforce development programs for different industries. All of the CRIs are engaging with business in ongoing conversations that are helping to generate new employer interest in—and ownership of—workforce development. Although the non-CRI collaboratives have not succeeded similarly in engaging business and thus replicating themselves, they also are having system impacts, altering the way the San Francisco government and the community college system govern economic and workforce development.

The CRIs adhered to a theory of change that workforce development systems need to be collaborative in scope, regional in scale, career-oriented in focus, and data-intensive in strategy. But collaboration alone is not enough, without ownership. Whether the collaboration is broad and cross-sectoral (as in Fresno) or narrow (as in SFITC), whether the organization functions as a collaborative or an intermediary, members need to have clear roles and responsibilities, with high levels of expertise. Collaboratives with a clear division of labor are better able to adapt when obstacles emerge (as in GCP and SFITC cases). Including experts is critical to avoid reinventing the wheel, as happened with a couple of the collaboratives that had no members with experience in job placement in a workforce development context. To incorporate such expert members into the collaboration, collaboratives may need to look throughout a broader region—for instance, several CRIs have no effective local CBOs with which to partner.

A regional approach is also important, but not critical. Although economies work regionally, the labor market intermediaries that help disadvantaged jobseekers transition into the workforce may be located in a network across a region or at one organization. A broader collaboration will be able to draw on more diverse participation and will have

more impacts throughout a region, as in GCP, which has spawned imitation programs in both Long Beach and the Los Angeles Unified School District. On the other hand, the case of WDBA offers an example of how participation can be relatively narrow, yet still have substantial effects within a system because members have figured out how to make changes by leveraging existing funding streams. The appropriate scale—city, sub-county, county, or multi-county—will depend on the unique configuration of workforce development resources within each area.

Developing career ladders is critical for upward mobility in a time when low-wage dead-end jobs dominate the landscape of low-skill work. Clearly, because of all of the support systems and sectors that are involved in making upward mobility possible, the concept has helped to "break down the silos." Nonetheless, these projects have revealed some contradictions that should be addressed. First, as the OCBC case showed, the career ladder for disadvantaged workers doesn't necessarily begin where research is pointing it. Second, as the experience of SFITC showed, ascending a rung or two in the career ladder is a process that takes years, especially for workers who have family obligations or no college degree. If a career ladder into a high-skilled job paying a family wage will take a decade to climb, this by definition is not an economic development strategy that responds to regional labor demand, but a supply-side policy.

Cross-sectoral (i.e., including business, government, education, and CBOs) participation is important, particularly if the partners are truly committed to the program—enough to help with internships. One key element in mobilizing such participation can be the use of information, as in the OCBC and Fresno cases. The cross-sectoral discussion about clusters, framed within a clear economic development orientation, resulted in the buy-in of stakeholders (e.g., the commitment of Fresno businesses to manufacturing technology training programs); career ladders perform a similar function. In the OCBC case, and increasingly in Fresno as well, this approach has helped to change the culture of the regional workforce development system and spur a regional dialogue about economic development. On the other hand, the use of information (i.e., the dialogue about clusters) was not important at all to the Gateway case; instead, personal networks made the difference.

Thus, the collaborative, regional, data-intensive, career-oriented approach is fostering some useful experiments. But the question remains whether these collaboratives are effective at solving the complex problem of linking economic and workforce development. Some, such as GCP and SFITC, have already succeeded at the goal of helping economically or educationally disadvantaged people access employment opportunities, probably helping some businesses become more competitive as a result. The Fresno project arguably has helped businesses become more competitive and expand, but without necessarily helping the disadvantaged. None have fully succeeded at both goals.

It is clearly not impossible to link the two, as the success of some sector initiatives and other labor market intermediaries has shown.[3] But the CRIs failed to address some of the key contradictions in linking economic and workforce development. First, and perhaps most importantly, the economic downturn meant that the programs were producing jobseekers in low-demand occupations at a time of high unemployment, and they were unable to adjust their curricula quickly. The CRIs may be business-driven, but their management style, including lack of familiarity with best practices in workforce development and disinclination to involve employers closely with the programs, resulted in a model that was not truly responsive to business needs. With the exception of GCP, which has a CEO with close ties to business and a hands-on management style, the CRIs were unable to translate their business connections into demand-responsive workforce development. This raises the question of whether a regional collaborative can replicate the well-documented successes of business-responsive nonprofits such as Project QUEST in San Antonio, the Center for Employment Training in San Jose, and the Bay Area Video Coalition in San Francisco (part of the SFITC).[4]

Second, these cases raise questions about whether a focus on clusters, which is clearly valuable for economic development, can also work for workforce development. For instance, OCBC's training program was part of an economic development strategy to enhance the competitiveness of local businesses within several growing industry clusters by producing high-skilled IT workers. The contradiction was that businesses saw it as meeting their short-term need for employees, while the career ladder approach is a long-term solution. When the program tried to meet its short-term goal of placing low-skilled IT workers to begin career ladders, businesses quickly backed away from their hiring commitments. Another problem occurred in Fresno in its work with the water technology manufacturing cluster. Though Fresno may be developing a competitive advantage in water technology, that cluster is producing very few jobs so there is no opportunity to scale up the workforce development program.

In contrast, because GCP focused more on a specific sector (logistics), they were able to educate employers and obtain buy-in for long-term goals, just as sector initiatives do. At the same time, GCP was able to place most of its graduates because it taught skills that could be used in a variety of different industries. The experience of SFITC has been similar; although the members of the collaborative originally targeted the IT sector for jobs, the downturn resulted in a new focus on non-IT sector employers who hire IT workers (e.g., hospitals). The lesson is that workforce development initiatives probably

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[3]   Zandniapour & Conway (2002, op.cit.); Giloth (2004, op.cit.).

[4]   For a description of Project QUEST, see Lautsch, B. A. & Osterman, P., "Changing the Constraints: A Successful Employment and Training Strategy" in Giloth, R., ed., *Jobs and Economic Development; Strategies and Practice* (Thousand Oaks, CA: Sage Publications, 1998). For CET, see Melendez, E. & Harrison, B., "Matching the Disadvantaged to Job Opportunities: Structural Explanations for the Past Successes of the Center for Employment Training" (*Economic Development Quarterly* 12(1):3–11, Feb. 1998). For a study of BAVC, see Chapple, K., Zook, M., Kunamneni, R., Saxenian, A., Weber, S., & Crawford, B., *From Promising Practices to Promising Futures: Job Training in Information Technology for Disadvantaged Adults* (New York: Ford Foundation, 2000).

need to take a sector approach to engage employers but also target occupations which cut across many different industries.[5]

A final unresolved contradiction is the scale at which economic and workforce development goals are realized. Successful economic development strategies are regional in scale because the economy works across jurisdictional boundaries. The CRIs' biggest successes were regional, but were mostly related to economic development, such as creating a new regional dialogue about clusters in Orange County and Fresno County and leveraging new resources and relationships across sectors. In contrast, successful placement of disadvantaged training program graduates works primarily at a local scale through local relationships.[6] The CRIs may be able to play an important role in changing the regional workforce development system, but it is unclear how their strength in regional collaboration contributes to more effective workforce development programs.

Most of the respondents who are involved in the long-term project to reform workforce development argue that the solution will emerge over time, with more experimentation. Whether looking at the ability of CRIs to refocus workforce development or the ability of individuals to take advantage of a clear career ladder to advance, the impact will take time to understand and affect the system. Even a WIB respondent critical of the CRIs acknowledged, "It's good to have outside people pushing us as the CRIs do. But institutionalizing the thinking will take us time."

For now, what is clear is that the seed has been planted. These projects provide many examples of how "the walls come down on funding streams and institutions," as one expert put it. Much of the collaboration is occurring across sectors and through cobbling together multiple sources of funding. Innovation has created a climate for change; said the same expert, "Success creates pressure. The existing institutions will come to the table because they're opportunistic." In the end, it will be up to the state to ensure that reform is institutionalized and innovation continues.

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[5] For a discussion of why targeting occupations is important, see Markusen, A. "Targeting Occupations in Regional and Community Economic Development," *Journal of the American Planning Association* 70(3), Summer 2004.

[6] Chapple, K. *Promising Futures: Workforce Development and Upward Mobility in Information Technology*, Monograph 2005-01 (Berkeley: Institute of Urban and Regional Development, University of California, 2005).

Building Institutions from the Region Up:
Regional Workforce Development Collaboratives in California

Karen Chapple

INTRODUCTION

> "This is way harder than anything else we're working on."
> —*CRI leader, referring to the workforce development initiative*

Policymakers have long puzzled over how to link workforce development to economic development. By itself, workforce development is not a complicated policy problem. An established literature explains what works and what doesn't work, showing that organizations must link training closely to employer needs and offer a mix of technical and soft skills training.[7] Workforce development only becomes complex when linked to economic development goals, particularly regional economic growth and competitiveness. In addition to its traditional goal of helping economically or educationally disadvantaged people access employment opportunities, programs must also help businesses become more competitive and expand—and adapt their preferences in workforce hiring.

It is not impossible to meet both workforce and economic development goals simultaneously, linking the supply and demand sides. A variety of workforce intermediaries have developed successful "dual-customer" models, such as the sector initiatives that serve both jobseekers and employers.[8] But multiple contradictions complicate efforts to link the two. First, the types of employers that give a region its competitive advantage are generally in export industries such as information technology and manufacturing—employers who typically experience labor shortages in high-skill, specialized occupations. Given the choice between hiring local or imported college-educated workers and hiring graduates of the "second-chance employment and training system," these employers will typically prefer the former.[9]

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[7]   Grubb, W. Norton, *Evaluating Job Training Programs in the United States: Evidence and Explanations* (Berkeley, CA: National Center for the Study of Vocational Education, 1995). Chapple, K., Zook, M., Kunamneni, R., Saxenian, A., Weber, S., & Crawford, B., *From Promising Practices to Promising Futures: Job Training in Information Technology for Disadvantaged Adults* (New York: Ford Foundation, 2000). Soft skills are defined as "skills, abilities, and traits that pertain to personality, attitude, and behavior rather than to formal or technical knowledge" [Moss, P. I. & Tilly, C., *Stories Employers Tell: Race, Skill, and Hiring in America*, (New York: Russell Sage Foundation, 2001.)]

[8]   Giloth, R., ed., *Workforce Intermediaries for the Twenty-first Century* (Philadelphia: Temple University Press, 2004); Zandniapour, L., and Conway, M., *Gaining Ground: The Labor Market Progress of Participants of Sectoral Employment Development Programs,* SEDLP Research Report No. 3 (Washington, DC: Aspen Institute, 2002).

[9]   The term "second-chance employment and training system" comes from Robert Giloth (2004, op.cit.).

Second, businesses' ability to expand depends largely on the peaks and troughs of the business cycle. Workforce development programs have historically experienced their greatest success when the economy is expanding rapidly and new skills (e.g., web design) are evolving more quickly than colleges can prepare students.[10] During times of recession, workforce development programs lose their niche, making it difficult to use them for economic development.

Third, globalization introduces new complexities. The most competitive, rapidly expanding businesses are also those most likely to take advantage of the ability to locate anywhere in the world. Some of the jobs most accessible to workforce development program graduates, such as office support occupations, are also the most likely to move offshore, although there seem to be regional differences in the ability to retain jobs.[11] This new international division of labor not only decreases the willingness of some employers to invest in training but also means that workforce development becomes, in essence, a moving target, chasing the industries and occupations that stay.

Finally, economic development and workforce development operate best at different scales. To foster economic development and growth, policy (for instance, cluster approaches) must focus on the region, the scale at which the economy functions. But workforce development is most effective within a relatively small labor market area, for two reasons: disadvantaged workers are unable to afford long commutes and workforce intermediaries are best able to develop personal connections with employers within their communities.[12]

This study looks at a new approach to the problem of linking economic and workforce development—in particular, a theory of change proposed by a group of stakeholders from a variety of sectors (government, foundations, and the workforce development system) in the late 1990s. To meet the multiple goals of increasing economic opportunity, decreasing poverty, and increasing regional economic competitiveness, these experts advocated a new workforce development system that was collaborative in scope, regional in scale, career-oriented in focus, and data-intensive in

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[10] Chapple K. & Zook, M. 2002. Why Some IT Jobs Stay: The Rise of Job Training in Information Technology. *Journal of Urban Technology* 9(1):57–83.

[11] The argument that certain occupations are particularly vulnerable to offshore outsourcing comes from Ashok Deo Bardhan and Cynthia Kroll, "The New Wave of Outsourcing" (November 2, 2003), Fisher Center Research Report #1103, Fisher Center for Real Estate & Urban Economics, University of California, Berkeley, http://repositories.cdlib.org/iber/fcreue/reports/1103. At the same time, research shows that vulnerability varies with regional occupational structure: occupations that are dispersed across many different industries (such as office support) are less vulnerable than those that are concentrated in one sector (such as computer programming) (see K. Chapple, *Promising Futures: Workforce Development and Upward Mobility in Information Technology*, Institute of Urban and Regional Development Monograph (Berkeley, CA: UC-Berkeley, 2005).

[12] Chapple K. (2005, op.cit.); Chapple, K., "Time to Work: Job Search Strategies and Commute Time for Women on Welfare in San Francisco" (*Journal of Urban Affairs* 23(2):155–173, 2001).

strategy. This study examines five cases that broadly follow this model of regional collaboration in order to determine how effective they are at problem-solving.

The proposed theory of change was outlined in three key documents published in 2000 and 2001 by Nick Bollman, the State of California, and the California Workforce Investment Board (WIB).[13] Acknowledging the challenge ahead, the documents argued for experimenting with different models and developing innovative solutions unique to each region. However, the new workforce development system would follow several key principles. Collaboration would be necessary to encourage partners with complementary skills to share resources—including businesses, whose needs and participation would drive the system. The regional scope would overcome the complications of working with multiple jurisdictions and align workforce development better with the economy, which functions at a regional scale. The career focus would help provide the high-skilled workers in demand by employers, as well as provide the upward mobility that would provide family wages. Finally, programs would use labor market information to identify career ladders and competitive clusters. The innovation in this approach was the emphasis on cross-sectoral (business, government, education) collaboration across a region—previous efforts at developing labor market intermediaries have typically been managed by nonprofits, with a local focus.[14] The model was essentially experimental. Although evaluations have shown some success with sector initiatives, there have been almost no attempts to evaluate the impacts of cluster or career ladder initiatives.[15]

From the perspective of the California Center for Regional Leadership (CCRL), the Collaborative Regional Initiatives (CRIs) were ideally positioned to launch these collaborative, regional, career-oriented, data-intensive projects. CRIs are organizations that engage diverse stakeholders in their regions, have a 3E focus (economy, environment, and equity), mobilize leadership and launch projects designed to improve performance of the region in a variety of ways. The idea is to build the capacity to craft solutions that recognize the interdependencies of issues (for instance, workforce and

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[13] Bollman, Nick, *Building a Workforce for the 21st Century* (California Center for Regional Leadership, 2001); Eastin, Hatamiya, Johnson, & Nussbaum, *California Workforce Development: A Policy Framework for Economic Growth* (State of California, 2000); and California Workforce Investment Board, *Strategic Plan* (California State Workforce Investment Board, 2001).

[14] Marano, Cindy & Tarr, Kim, "The Workforce Intermediary: Profiling the Field of Practice and Its Challenges [Chapter 4, pp. 93–123 in Giloth, 2004 (op.cit.)].

[15] For evaluation of sector initiatives, see Zandniapour & Conway (2002, op.cit.) and Elliott, M., Roder, A., King, E. & Stillman, J., *Gearing Up: An Interim Report on the Sectoral Employment Initiative* (Public/Private Ventures, 2001). For a preliminary evaluation of career ladder initiatives, see Fitzgerald, J, "Pathways to Good Jobs: Can Career Ladders Solve the Low-Wage Problem?" [*The American Prospect* 15(57), 2004] and Mitnik, P.A. & Zeidenberg, M., "Too Many Bad Jobs: An Analysis of the Prospects for Career Ladder Initiatives in the Service Economy" (Paper presented at the 56th Annual Meeting of the Industrial Relations Research Association, San Diego, January 2004). A typical evaluation of a cluster initiative is Waits, M.J., "The Added Value of the Industry Cluster Approach to Economic Analysis, Strategy Development, and Service Delivery" [*Economic Development Quarterly* 14(1):35–50, 2000], which describes how a cluster initiative can foster dialogue and improve access to services, but neglects to analyze whether it had any impacts on economic growth.

economic development) and cross traditional boundaries (for instance, between business and job training programs). Funded by the James Irvine Foundation (JIF), CCRL issued an RFP for Workforce Development Demonstration Projects to "demonstrate a new approach to preparing people for entry-level positions with career potential in high-wage, high-demand industries in different regions of California." The idea was not just to foster examples of innovation in workforce development, but also to leverage multiple outcomes, such as new relationships, and influence state policy and investment.

CCRL, JIF, and the California Employment Development Department (EDD) worked with organizations to produce proposals that developed career progressions and identified partners and funding. Four, including three CRIs and one community college that was formerly part of a CRI, were selected in March 2001:

- The *Fresno Area CRI* identified career pathways in its water technology cluster. The project proposed to help entry-level applicants start at a relatively high level in the career progression, the welder occupation; provide training to advance incumbent workers to the high-skill occupation of maintenance mechanic; educate employers about the value of a skilled labor force; and provide a foundation for expansion of the training program to other occupations in the water technology cluster as well as other clusters.

- The *Gateway Cities Partnership* designed a program to offer disadvantaged community members an entry-level certification and a job, the first step in a career progression, in the growing global logistics industry. With this certification and some work experience, these graduates could enter the global logistics specialist program at California State University, Long Beach.

- The *Orange County Business Council* identified an IT career progression, in which disadvantaged individuals would receive training to enter IT as computer support specialists and, with additional skills training and on-the-job training, advance to network administrator and similar occupations through training already available at local community colleges and the UC Irvine extension.

- *Cabrillo College* (formerly part of the Santa Cruz Clusters Project) decided to create the Watsonville Digital Bridge Academy (WDBA) to prepare low income at-risk young adults with the soft skills, technical skills, support services, and work experience they would need to successfully enter and complete Cabrillo College's regular IT program and enter the workforce as high-wage knowledge workers; thus, the emphasis was more on preparing students for college than entering the workforce.[16] The idea was to

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[16] Although Cabrillo College competed for the demonstration project funds as part of the Santa Cruz CRI, the CRI became inactive prior to program implementation. CCRL no longer considers it one of the CRIs, but its leaders are quick to point out that the same networks are at work in the workforce development project as were involved in the CRI.

demonstrate that existing funding streams and support services in every community in California can help underrepresented groups develop the skills for high-demand and high-wage IT careers.

This study compares these four workforce demonstration projects with another regional workforce development collaborative, the San Francisco Information Technology Consortium (SFITC).[17] The SFITC, which is funded in part by JIF, consists of a network of community-based organizations and community colleges offering entry-level computer training, job placement, upgrade training, and needed social support to current and prospective IT workers.[18] Figure 1 shows the location of the five cases.

Based on 40 interviews with collaborative leaders and key informants, as well as review of related documents (see Appendix II for a description of methodology), this study asks whether the CRIs organize problem-solving around workforce development more effectively than do other collaboratives. It finds that regional collaboration is not well suited to addressing both workforce and economic development goals; however, it can make workforce development programs more effective if partners from both inside and outside the current system are engaged in a networked structure with clear roles and responsibilities, as opposed to a collaboration on paper. The report looks first at how organization structure (origin, mission, and organization), economic development focus, program design, and collaborative style shape program and other outcomes such as adaptiveness, ability to mobilize resources, and system change. A final section addresses the potential for sustainability of these workforce development innovations and the policy implications that emerge from the comparison of collaboratives.

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[17]   See Appendix I for a glossary of terms.

[18]   SFITC is one of three such JIF-funded collaboratives; Public Policy Associates, Inc. conducted evaluations of these collaborations, available online at http://www.irvine.org/publications/by_topic/jobs.shtml.

Figure 1. Location of the Cases: Five Regional Workforce Development Collaboratives in California
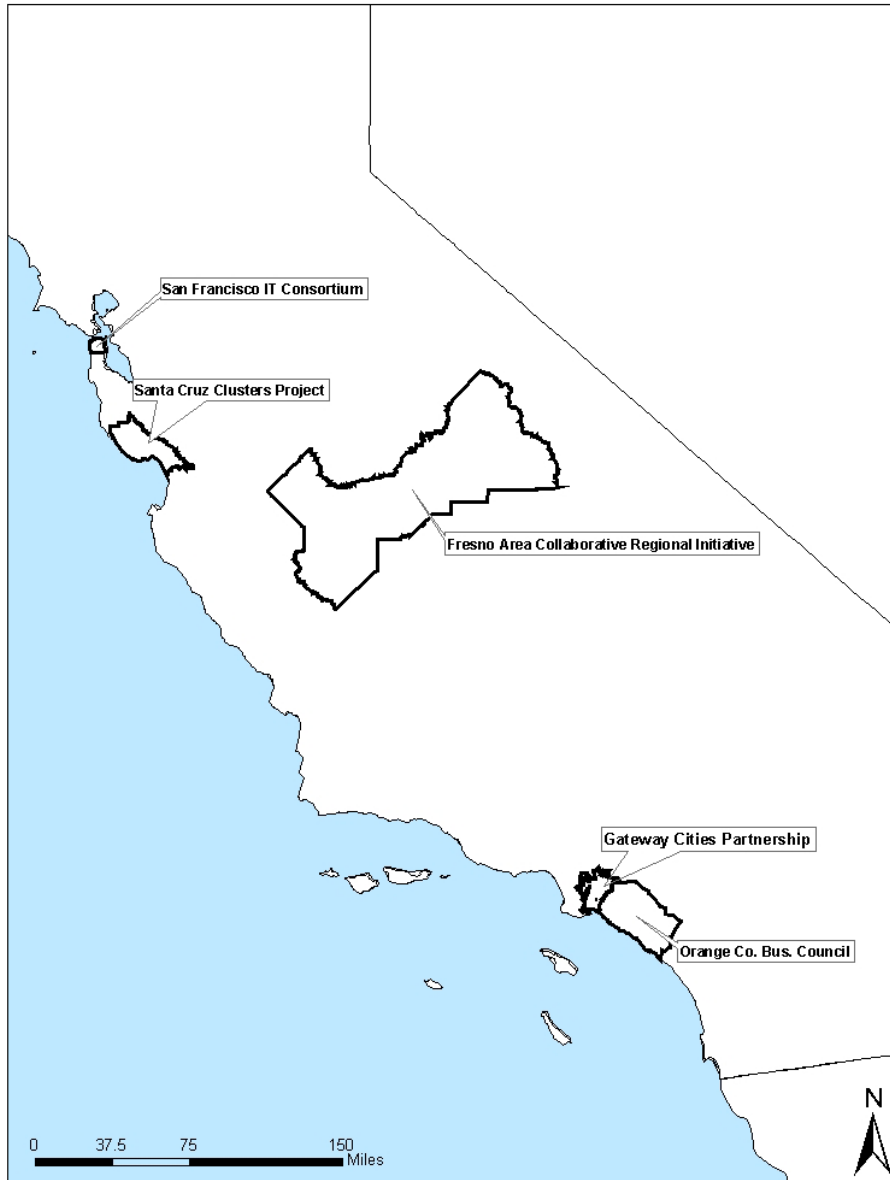
THE ORGANIZATIONS AND THEIR PROGRAMS: AN OVERVIEW

This study compares five workforce development projects with key similarities and differences. Thus, it controls for program origins (the CCRL RFP) and goals (both economic and workforce development) across four of the five cases (all except the SFITC). CRIs host three of the five cases, allowing the study to control for overall focus of the organization across all but the SFITC and the WDBA. Although all of these

organizations are regional in scope and collaborative in process, there is considerable variation in their institutional structure, even among the CRIs. The three CRIs differ from the SFITC and the WDBA not only in their scope, which is broader than just workforce development, but also in their origin, a broad-based concern for regional problem-solving. As one respondent explained the genesis of the non-CRI collaboratives, "Do you create the collaborative for the sake of the grant, or vice versa?"

Yet because the CRIs were responding to the James Irvine Foundation's call for workforce development proposals, they, too, developed new collaborations for the sake of the grant. This section analyzes the nature of these collaborations, in order to determine their role in the outcomes outlined in the next section. The collaborations have several different components that shape outcomes: the overall structure of the organization, the regional orientation toward economic development, and the design of the workforce development program.

Overview of the Organizations

<u>Fresno Area CRI</u>

Beginning in 2000, a variety of factors—including the publication of *The Economic Future of the San Joaquin Valley* report by the Great Valley Center, the emergence of local visionaries such as Deborah Nankivell (of the Fresno Business Council) and Tim Stearns (of the Lyles Center for Innovation and Entrepreneurship at California State University, Fresno), and visits from outside experts such as Neal Pierce and Collaborative Economics—catalyzed Fresno's business leadership into action to address the region's chronic poverty. The Business Council formed a New Economy Task Force to figure out how to implement the *Economic Future* report. In order to involve non-business stakeholders, the Business Council and CSU Fresno launched the Fresno Area Collaborative Regional Initiative in September 2001 as a joint venture, with the mission to "help improve the Fresno region's competitiveness by providing steward leadership in areas critical to success in the knowledge-based new economy."

The CRI is housed at CSU Fresno, with a staff of four headed by CEO Ashley Swearengin and a budget (2002) of almost one-quarter million dollars. Its executive committee consists mostly of representatives from the Fresno Business Council and local businesses, as well as CSU Fresno; it also includes a couple of representatives from local foundations and government. Within the CRI, governance occurs mostly through committees.

The philosophy behind the Fresno CRI is that business leaders are the stewards of the regional economy, and economic prosperity depends on community prosperity. As one CRI leader described it, "It's a both/and, not an either/or…. We're a chronically, systemically dysfunctional community [and community problems call for] CEO levels of skill [since the most successful models are] business-driven." The CRI's role is to help business leaders understand the interdependence of regional issues and thus develop the capacity for stewardship. Together with the Fresno Business Council, its impact has been

broad. One CRI leader estimated that "there are 12 to 14 masterminds now, and 75 leaders." Rather than focusing on the 3 'E's, per se, the Fresno CRI sees its mission as community problem-solving.

In the Fresno-Madera region, the CRI plays a pivotal role in building consensus and connecting the region to outside resources, particularly in terms of economic development. Many local stakeholders point to the Regional Jobs Initiative, a plan to create 25,000 net new jobs in the next five years, as the most visible accomplishment of the CRI to date. The product of ten years of building relationships and cultivating civic entrepreneurs, the RJI involves all the major regional stakeholders, who found enough common ground in values to agree on a new cluster-based approach to economic development. The project has spawned new cooperation between local business and the WIB. For example, the WIB committed to investing 50% of its training dollars in the clusters, and business gained a much better appreciation for the constraints of government funding.

Yet one critic from a local CBO argued that the CRI and its jobs initiative include only token representation from low-income communities of color, including only "like-minded" participants from the areas that already have capacity, rather than the communities of greatest need. To this critic, the CRI is well-intentioned, but unable to embrace diverse perspectives because of entrenched interests among the leadership: "I think Deb and Ashley get it, but everyone else around them may not." Another critic suggested that a "charity ethos" drives the CRI, stemming from the unique mix of politics, religion, and money in Fresno. (A CRI leader countered that business leaders are finally discussing the difference between charity and philanthropy in recognition that the solution lies in addressing root causes, rather than symptoms.)

Asked if the leaders of the CRI are as diverse as the people of Fresno, a CRI leader responded, "No, but these are CEO-level leaders, mastermind consciousnesses, understanding a vast myriad of issues, and visioning at the same time—not to say that folks in people-of-color communities don't have that ability, but they typically have no opportunity to develop the skills."   Thus, the leader argued, most of Fresno's disadvantaged aren't focused on systemic changes. "If you're going to create a model to deal with economic development, you're going to get the people who can lead that. So the issue is, are there people of color who are willing to engage?" The Fresno Business Council is exploring a new model called "Inclusive Stewardship," but outreach presents a challenge because of the lack of time: "There is such a sense of urgency that important matters can't all be addressed."

Gateway Cities Partnership

The Gateway Cities Partnership (GCP) was formed to revitalize the economy in southeast Los Angeles as it recovered from the defense industry and aerospace downsizing in the early 1990s. Realizing that the solutions to the region's problems lay beyond their individual capability, the 27 city governments of the region convened the

region's business and academic leadership to evaluate the usefulness of a nonprofit economic development collaborative. GCP soon evolved into more of a community development organization as its leaders decided that the key to establishing a sound regional economy would be developing a sustainable community. Its mission is to "define, develop and lead the collaborative efforts of business, education, labor, government and the expanded community in order to achieve regional economic revitalization and growth."

GCP focuses on developing new community networks and helping local CBOs grow and expand their capacity. According to one board member, "Gateway Cities understands who the grassroots community is, who are the power brokers in the individual communities." Like the Fresno Area CRI, GCP doesn't really consider itself a "3E" organization with a broad mission. Says Richard Hollingsworth, CEO, "We never think about the 'E's, quite frankly; we say, here are the four or five things that we do, and we don't do anything else." For the most part, Gateway Cities' problem-solving is within economic development. Yet, because it is broadly defined as improving the day-to-day lives of people in the community, it encompasses the environmental and equity 'E's as well.

With a staff of five and a budget of $900,000 (2003), GCP maintains a centralized governance structure. Its CEO actively shapes its agenda and activities, with some guiding input on direction, priorities and resources from GCP's board of directors. One-half of the board is comprised of businesses (mostly in financial services and utilities), one-third of educational institutions, and the remainder of government representatives.

Although its ultimate goal is economic development, GCP focuses most of its efforts on community development projects rather than business assistance and workforce development. Its major initiatives include the Paramount Education Partnership, a program to increase the educational attainment of residents throughout the City of Paramount, and the Sustainable Communities Program, which has helped residents in seven cities to create their own sustainability plans. As one community college respondent explained the approach, "I had thought of economic development as job creation, attraction, and retention, but Richard has gone beyond, to think about what it is that makes a community a viable place to live."

Critics of GCP argue that its value resides solely in its leader, Hollingsworth, a dependence that creates both sustainability and operational issues. Said one, "If the state wants to fund independent groups that come and go with their entrepreneurial whim, that's good for them, but it doesn't address issues of poverty, issues of access, welfare-to-work programs, and so on." Another critic emphasized that while Hollingsworth generates good ideas and raises money easily, he doesn't know how to do projects and to get systems to work. Despite these complaints, even its most severe critic admitted, "Gateway Cities Partnership is a self-contained partnership. They nurture their alliances well. I don't think they have a lot of skeletons in their closet."

Orange County Business Council

The Orange County Business Council (OCBC) grew out of the 1995 merger of the Orange County Chamber of Commerce & Industry, the Industrial League of Orange County, and Partnership 2010. Its mission is "to proactively shape the future of Orange County, using business and economic growth as an engine to fuel better essential services, up-to-date infrastructure and contributions to community and cultural groups."

OCBC has a staff of 25 and a budget (2002) of $3.6 million. Its executive committee and board of directors consist mostly of representatives from large local businesses, dominated by the financial sector; it also includes a couple of representatives from local government. With more than 50 members on its board, OCBC relies heavily on its committees to direct activities. Largely funded by membership dues, OCBC represents several hundred large businesses in the county, providing "the forum for businesses to join together, often in conjunction with government and educational institutions, to invest in the growth and prosperity of the fifth largest county in America" (OCBC website).

In some ways, OCBC fits the CRI mold better than Fresno Area CRI and Gateway Cities Partnership do. Rather than cultivating business stewardship as in Fresno, OCBC sees its role more as a broker working for both business and government, a builder of networks and coalitions. Said one CRI leader, "We can get them in the same room to talk." Unlike Gateway Cities, its approach is highly strategic, rather than project-driven, focusing on building long-term relationships, intermediate successes, and a broad base. Long-term, informal relationships help build the base for future projects—for instance, OCBC had a relationship with the Chamber of Commerce for 15 years before working on a project together. Intermediate successes build momentum for more projects; for instance, small successful workforce development projects can bring new players to the table. Finally, OCBC has adopted a cross-sectoral approach towards a broad base of economic development activities, which helps to involve a large and diverse group of stakeholders.

As a result of a strategic planning process that began in 1998, OCBC is engaged in three strategic initiatives: workforce development, economic development, and advocacy. Their workforce development initiatives develop out of economic development strategies, particularly their analysis of growth clusters. In contrast to Fresno CRI and Gateway Cities, where business interests have shaped the workforce development approach, at OCBC the interest in collaborative workforce development stems from business, but is strongly influenced by the analysis of a talented staff, including a Ph.D. regional economist and a former high-level community college administrator.

OCBC's critics suggest that it has failed either to adopt a cross-sectoral approach or to develop a broad base. One key informant suggests that OCBC is essentially "old white guys" who are "early in the stages" of incorporating equity and environment and have missed key opportunities, such as the controversy over the El Toro airport, to be

more broadly representative of the county: "It's not as inclusive as it needs to be." Another informant, from a local CBO, suggested that OCBC believes it is well connected to low-income communities through working with the WIB and the community college. "But do people get help? Do they get out of poverty? They don't ask those questions. What would it take to do that?"

Watsonville Digital Bridge Academy

The Watsonville Digital Bridge Academy (WDBA) grew out of the Santa Cruz Clusters Project, which itself emerged from an organization called the Coalition for Workforce Preparation that coalesced in the mid-1990s first to coordinate education and workforce development and then to address welfare reform. This first coalition included representatives from Cabrillo College, K–12 and adult education, government agencies, and CBOs. Business became engaged in the late 1990s, as Collaborative Economics (a consulting firm specializing in the development of civic leaders and innovation in economic policy) facilitated a series of focus groups around four clusters: agriculture, tourism, high-tech manufacturing, and software. Shortly thereafter, environmentalists joined the effort, and the new collaborative gained three missions: housing, workforce development, and connecting nonprofits to business. As one of the founders described it, a couple of years of building relationships paid off: "We began seeing overlaps in our missions and core competencies, which meant that it made sense to collaborate."

By 2000, the Clusters Project had been christened a CRI, with a 35-member leadership group comprised of business, government, education and civic leaders. The founding co-chairs were John Hurd (of Cabrillo College) and James "Diego" Navarro, CEO of a local high-tech company. However, the economic downturn resulted in the departure of several prominent firms (including Texas Instruments and 3M) and the softening of the housing market, which in turn meant the quick demise of the collaborative's efforts in housing and nonprofit/business connections. The CRI is currently inactive, but its workforce development projects—the Digital Bridge Academy and the Ladders Project—remain active under the leadership of Cabrillo College.

The CRI had stopped meeting actively by 2003. Although the CRI's founders characterize what was left of the organization as a cross-sectoral effort, it lacked the business leadership and "3E" focus of the other CRIs. As one leader describes it, "This is a public-based CRI focused on equity and the economy. Our environmental issues were basically resolved ten years ago in Santa Cruz County." The Santa Cruz Clusters Project was more of an employer-responsive than employer-driven CRI, soliciting business input but placing education and public agencies in the stewardship role for regional economic development.

San Francisco Information Technology Consortium

The concept of the San Francisco Information Technology Consortium (SFITC) first arose in 1999 as the San Francisco Department of Human Services (DHS) began to

think strategically about how to get their welfare-to-work clients into better paying jobs with potential for advancement, focusing on the IT and construction sectors. DHS sought to replicate and expand an emerging partnership between two nonprofits offering IT training, Goodwill and the Bay Area Video Coalition (BAVC). Realizing that many students lacked the basic computer skills necessary to enter BAVC's training program in web design, BAVC had developed a basic skills curriculum for Goodwill. This created a progression of training programs from remedial computer training to web design that at least in principle could take "someone who thinks a mouse is an animal" through eight months of training and into an entry-level web designer position paying as much as $30,000.

Representatives from DHS, BAVC, and the San Francisco Private Industry Council began holding periodic meetings to determine how existing programs could help both the welfare-to-work and working poor populations prepare for careers in IT. JIF funded workforce development consultant Dave Gruber to help the new collaborative; Gruber quickly became the key catalyst not only by helping the group think more systematically about career ladders but also by acting as a broker. As one partner says, "Without Dave, I don't know that I would have made the connections." As new partners joined—Jewish Vocational Service (JVS), a nonprofit that was interested in finding revenue-generating training programs; Glide Tech, a faith-based CBO that had begun to develop a computer technician program; and Mission College, which helped Glide set up its curriculum and computer lab—DHS began to use some welfare-to-work funds to provide IT training, JIF provided $600,000 in additional startup funding, and the collaborative began applying for more grants.

After winning a three million dollar grant from the US Department of Labor's H-1B technology training program, relationships were formalized in a Memorandum of Understanding, and the SFITC gained a mission: "The SFITC is a membership organization that provides training and promotes access to career pathways in IT for economically or educationally disadvantaged people." The driving idea is to move beyond access to IT jobs to access to IT career ladders. As one consortium participant describes it, "There was a vision that we could help students see that opportunities are beyond initial training. We could keep introducing them to new technologies." From the perspective of DHS and the PIC, SFITC offered an innovative way to align incentives and providers. For instance, there were economies of scale by centralizing job development for all seven members.

New members joined to complete the training ladder—basic skills and remedial training would be available through Goodwill, a nonprofit, and Arriba Juntos, a CBO, as well as the San Francisco Housing Authority. Over time, the Housing Authority and Mission College left the collaborative, while new members OpNet (a web design training program for youth) and City College (replacing Mission College) joined in to assist with curriculum development and instruction and provide college credit. Figure 1 (in Appendix III) shows the ladder of training programs as recently revised by the collaborative. In general, the CBOs at the beginning rungs of the ladder, particularly

Glide Tech, serve a more disadvantaged clientele, while those providing advanced training, such as BAVC, tend to see clients with more education.

Currently, the collaborative is run by an executive director with a staff of three; the director reports to an executive committee consisting of BAVC, Goodwill, and City College. Separate committees work on issues such as resource development, job development, curriculum, marketing, and information management, while important decisions are made by a steering committee with all seven members of the SFITC. The SFITC is just now beginning to see results from its work. As one member says, "It took a long time for us to gel. We have been focused on process; we spent a year discussing process."

The SFITC's critics argue that the collaborative lacks purpose, particularly from the perspective of employers. Said one workforce development expert, "They knew they were supposed to collaborate and get some money. It's collaboration for collaboration's sake versus getting something done." Another suggested that the SFITC is only about skill standards on the supply side, despite the established importance of employer-based training. Unlike the other collaboratives studied, it is responsive to but not driven by business, so it focuses less on linking the supply and demand sides.

Table 1 summarizes the organizational structure of these collaboratives. The CRIs are generally broader in scope than the two non-CRI workforce development collaboratives (WDBA and SFITC). They bring a cross-sectoral approach to problem-solving, with business generally playing an active role on committees, as well as a more intense focus on linking workforce development to economic development. The next section explores the organizations' approach to economic development in more detail.

Table 1. Organizational Structure, Regional Workforce Development Collaboratives

Organization	Organization size	Organization structure	Board composition	Organization mission	ED approach	Use of information
GCP	5 staff	Centralized	Balanced representation from business, government, education	Regional economic revitalization and growth	Develop opportunities in logistics by creating low-skilled occupation	Initial cluster analysis
Fresno	4 part-time staff	Decentralized	Balanced representation from business and education; minimal government representation	Economic competitiveness	Clusters; develop high-skilled manufacturing workforce through career ladders	Initial cluster analysis; employer focus groups and interviews
OCBC	25 staff	Decentralized	Business-dominated, minimal government and educational representation	Economic growth as key to quality of life		Initial cluster analysis; ongoing workforce supply/demand assessment; employer focus groups and interviews
WDBA	2 staff	Centralized	Community college	Economic development through education and workforce development	Help "under-prepared" students enter knowledge-based careers	Initial cluster analysis
SFITC	3 staff	Decentralized	CBO and community colleges; business advisory councils	Access to career pathways for disadvantaged	Develop career ladders in IT	Minimal

Economic Development and Workforce Development in the Study Regions

Each of these organizations has an underlying paradigm of economic development that guides their workforce development approach (Table 1). Economic development orientations differ along three dimensions: philosophy, strategy, and governance. Some of these workforce development initiatives—in particular, the Fresno CRI and OCBC—see economic development as an effort to increase the level of economic activity in the region by making businesses more competitive. For these

organizations, workforce development is primarily a means to increasing business productivity, by improving the quality of the workforce available; the idea is to create a more competitive region, so that the disadvantaged will eventually benefit from faster growth. Others, including GCP, WDBA, and SFITC, focus not on businesses, but on the capacity of community members to participate in the economy. While this workforce development philosophy is also about making businesses more competitive, the idea is to do so by simultaneously shaping the demand and supply sides of the labor market—i.e., ensuring that low-skill jobs are available and offer a career ladder, and preparing underprivileged community members to fill the jobs.

The organizations use two key strategies to implement their vision: on the demand side, clusters, and on the supply side, career ladders. Using clusters of related industries to drive economic development is an idea popularized by Michael Porter beginning in the late 1990s, although many practitioners, including Collaborative Economics and the State of California, had already adopted the approach by the early 1990s.[19] The idea is to support geographic concentrations of companies that share products, markets, technology, labor, inputs, and other factors of production. Such clusters generate increasing returns to scale (for instance, lower unit operating costs due to concentrations of suppliers) and/or higher unit earnings due to product or process innovations resulting from intense local competition or even cooperation between firms.

Because economies function at a regional scale, and clusters are supported by regional institutions, infrastructure, and workforce, the cluster strategy entails intervening at a regional level to improve these underlying support structures and working actively with business. As one respondent pointed out, "The cluster approach forces businesspeople to be active participants; they have to articulate their demands." Although studies have described how policies can help clusters function more smoothly (for instance, by supporting local universities and fostering an entrepreneurial climate), they have not yet systematically evaluated the costs and benefits of cluster approaches or how they contribute to regional growth.[20] Thus, most consider a "successful" cluster initiative to be one that starts a dialogue among regional stakeholders and improves information about and access to shared resources.

The career ladder approach means rethinking workforce development. Instead of training students for a particular job, workforce development in a career ladder uses a series of training and educational programs to give entry-level workers new, related skills, enabling them to change jobs and increase earnings. By grouping related training

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[19] See, for instance, Porter, Michael, "Location, Competition and Economic Development: Local Clusters in a Global Economy" [*Economic Development Quarterly* 14(1):15–34, 2000].

[20] See, for instance, Waits (2000, op.cit.) and Walcott, S.M., "Analyzing an Innovative Environment: San Diego as a Bioscience Beachhead" [*Economic Development Quarterly* 16(2):99–114, 2002]. For a contrasting view, see Marcelli, E., Baru, S., and Cohen, D., *Planning for Shared Prosperity or Growing Inequality? An In-Depth Look at San Diego's Leading Industry Clusters* (San Diego, CA: Center on Policy Initiatives, 2000). Accessed at http://www.onlinecpi.org/publications.html.

programs together, training providers can show workers multiple avenues for upward mobility. Because of the potential for horizontal and diagonal movement across these channels, some call the ladder a "lattice"—for instance, a computer technician might move laterally into networking, vertically into programming or, with some new business skills, diagonally into a business analyst position.

The advantage for employers is not just more qualified employees, but also increased retention, particularly in high-turnover, low-wage industries like health care. Yet, since only certain types of firms benefit from retention, there are limits to employer interest in career ladder strategies. Moreover, there are serious concerns about the feasibility of these programs, as they would have only limited effects on upward mobility and could also have a downward effect on wages as firms substitute less educated workers for their traditional workforce recruited through the first-chance system.[21] Overall, these initiatives are most likely to be successful when targeting these large, stable sectors and also when there is a supportive corporate culture, assistance from the public sector, and pressure from unions.[22]

Like cluster strategies, the goal of most career ladder strategies, according to the advocates interviewed, is to foster dialogue and improve information about resources. Adopting a career ladder strategy requires stakeholders to "get out of their silos" in order to think about the pipeline—community colleges and community-based training providers have to think about a continuum of services, and the employers involved begin to think about developing mechanisms for internal advancement. Yet career ladder strategies also have traditional workforce development goals—i.e., placing program graduates into jobs with opportunity for advancement.

These collaboratives (with the exception of SFITC) adopt both cluster and career ladder strategies. Thus, the approach is largely untested; the proven "dual customer" efforts generally target a specific industry sector, such as health care, rather than a cluster of related industries that share a workforce.[23] It is perhaps too early to evaluate the effectiveness of the cluster and career ladders strategies overall; in practice, these initiatives (with the exception of SFITC) have only had a chance to target the bottom rung of the ladder and most have only intervened in one cluster. However, what is clear (and emphasized by several key informants) is that the strategies have met the goal of serving as "conversation starters," engaging a variety of new players in the region in workforce development efforts. This, in turn, has shaped governance around workforce development. At the same time as new WIBs have emerged to direct regional workforce development programs and spending, these organizations have come forth with their own agendas for long-term change. As one CRI leader said, "The WIBs look at jobs now, the

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[21] Mitnik & Zeidenberg (2004, op.cit.).

[22] Fitzgerald (2004, op.cit.); Appelbaum, E., Bernhardt, A.D. et al., *Low-Wage America: How Employers are Reshaping Opportunity in the Workplace* (New York: Russell Sage, 2003).

[23] Giloth (2004, op.cit.).

EDD looks at jobs 12 months from now, and the CRIs are charged with finding out what the jobs will be in five years." Depending on their relationship with the WIB, these collaboratives may be able to influence both short-term and long-term decision making about workforce development in the region.

Fresno Area CRI

The Fresno Regional Jobs Initiative (RJI), a joint effort of many regional stakeholders including the CRI and the WIB, aims explicitly to reduce unemployment in Fresno, which at 12% has one of the highest unemployment rates in the state. The guiding philosophy of the RJI is that the solutions lie in business stewardship and comprehensive CEO-level decision-making. As one CRI leader says, "In business, shifting from a low-cost model to a value-added approach is a huge challenge. CEOs that lead their own companies in such a stewardship fashion are the ones most engaged in the RJI." The *Implementation Plan* outlines the economic development approach in Fresno:

> "In the fiercely competitive arena of economic development, communities must have a clear and objective understanding of their competitive advantages. They must understand where they can compete and what it will take to keep and build competitive advantage for its existing employers, attract new ones, and create the environment for innovation that is so essential to enterprise effectiveness and job creation."[24]

The focus on competitiveness means using workforce development to improve the caliber of candidates available for businesses to choose from. In the case of the water technology cluster, this means developing a pool of a couple hundred qualified jobseekers for the handful of career-ladder welding jobs available. As one respondent explained, "When you look at the number of jobs that are available, we're not talking about a huge number of people who are needed to fill the gap." Another argued, "I hope that we don't have to channel resources only into demand, where most people work. Otherwise it would be agriculture in Fresno. But the future is not there."

Critics argue that the cluster strategy is too narrow, not only because of the few job opportunities available, but also because the cluster itself is limited. There are just 75 water technology-related companies in the region, with very different operations and workforce needs. Although companies were able to agree on training for incoming workers in three occupations—welders, maintenance mechanics, and machinists—it has proven more difficult to organize incumbent worker training. Because of equipment differences, the companies had no interest in supporting a joint technical skills training program; the only need they shared was for soft skills training for supervisors. One critic argued that because the cluster is so narrowly based, it may prove unstable in the long

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[24]   Fresno Regional Jobs Initiative, *Implementation Plan*, October 2003, pp. 1–2.

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run, given the lack of competitiveness in Fresno's agriculture industry. However, CRI and cluster leaders see it as a growing export industry; most of the cluster's clients are already commercial, industrial, and municipal users from around the world who seek to use water more efficiently.

The promise of the career ladder is one rationale for adopting a cluster strategy. As a WIB official argued, "The feds mandate that we only do training for demand occupations. But there is good demand and bad demand." Demand produced by high turnover is because of poor job quality, while demand where there is no existing supply of skilled employees (as in health care) typically offers higher wages. Water technology offers opportunities for growth: "The WIB's policy is not to subsidize job training for the sales clerk at the widget store…Career ladders give people a way to see things optimistically."

More than anything, the discussion of clusters and career ladders in Fresno has served as a "community catalyst." The designation of a water technology cluster brought together businesses who were previously unaware of each other, and the development of a career ladder necessitated new conversations among business, government, and community college stakeholders. Interestingly, the conversation continues largely without new research. Although Collaborative Economics' work on clusters and then on career ladders with EDD started the conversation, participants do not consider it necessary on an ongoing basis because the data is often inaccurate and quickly out of date: "That was their sausage making…If we wanted to know more about demand now, we would simply convene the businesses."

Since the flurry of economic and workforce development activity generated by the *Economic Future* report, the CRI and the WIB have developed a much closer relationship. The CRI's role is to push the WIB and other local organizations to think more strategically about the regional economy. But because, as one critic pointed out, those organizations consist mostly of "like-minded" people, some policies are off the table. For instance, the same critic brought up the issue of living wage jobs to the Regional Jobs Initiative; although the RJI's goal is to create 25,000 new jobs at an average wage of $30,000, this critic wanted to see a living wage floor. The response was, "No, the business people are not going to like that. It would destroy the spirit of the whole thing." Asked to respond to this criticism, a WIB official argued that wage subsidies are a disincentive to working hard. With a living wage, "We'd drive all the businesses we've got out. We cannot serve everyone, but we can serve optimally those who we do serve." Thus, in essence, the current workforce development system in Fresno sees its customers more as its competitive businesses and their upwardly mobile workforce than as the universe of jobseekers in Fresno.

Gateway Cities Partnership

As GCP formulates the region's economic development philosophy, it is about growing a healthy economy by making the community more livable in terms of education

and the environment. In terms of workforce development, this means both preparing disadvantaged community members for the workforce and ensuring that there is demand in entry-level jobs with a career ladder. The GCP logistics training project fits this model by training local youth for a newly created entry-level position in global logistics.

GCP has adopted the cluster and career ladder strategies, but unlike the Fresno case, the analysis of the logistics cluster did not generate the conversation about workforce development. Instead, the genesis of the logistics workforce development program (discussed below) was in the personal relationship of Hollingsworth to the logistics community. Since the regional conversation about clusters and career ladders didn't really begin in this case, the strategy has not taken hold in the region. However, like Fresno, GCP relies on informal conversations with businesses in order to stay abreast of industry trends (although more out of lack of resources than preference).

The lack of a regional workforce and economic development orientation and strategy comes in part from the structure of the Gateway Cities region. Gateway Cities consists of 27 separate cities rather than a true regional entity (as in Fresno, OCBC, Santa Cruz, and San Francisco), and there are multiple and competing WIBs within the region. Thus, decision-making remains largely fragmented; to the extent that GCP shapes a regional agenda for workforce development, it is through its influence over a network of CBOs, government agencies, and educational institutions. Unlike the other CRIs, it has not engaged in a systematic effort to push its local WIBs to focus more on economic development.

Orange County Business Council

OCBC has consistently focused on improving business competitiveness by growing a highly qualified workforce within the region. As one CRI leader explained, "We're not trying to reformulate the workplace. We're responding to it. We're trying to understand what their needs are, and trying to think how this can make their business better, and providing them with the raw materials to do that." Unlike Fresno, addressing chronic poverty is not part of the economic development approach. Said one critic, echoing the views of others, "The will to deal with those issues doesn't seem to be there."

Of all these organizations, OCBC was the first to adopt the cluster approach, in the late 1990s. The idea, which was advocated by McKinsey consultants working pro bono for the county, was to focus on driving clusters because they would have the strongest multiplier effect and thus impact on countywide growth. Many of the clusters also offered jobs with a career progression, so the idea became that "we shouldn't use WIB dollars to train hairdressers," but for jobs such as the computer support specialist (CSS). OCBC decided to diversify its risk by supporting a portfolio of ten clusters through research, and for some, workforce development. Along the same lines, its latest strategy, the Regional Skills Alliance, helps community colleges meet the skill needs of cluster businesses to drive skill needs—and taps them to fund training.

In its workforce development program, OCBC chose to modify the cluster approach, selecting an occupation (CSS) that cuts across multiple clusters and is projected to grow rapidly in the next few years. It was considered a low-risk strategy because, as a CRI leader explained, research had documented that "fundamentally without more of these people, businesses can't move forward and they're not going to be very productive."

CRI leaders argued that their purpose is not just to look at the jobs of five years into the future, but also the new jobs arriving in the short-term, generally considered the purview of the WIB and EDD. This attitude reflects both the influence of OCBC's research and the strength of its partnerships with government. The series of workforce reports put out by OCBC and the Orange County WIB (OCWIB), which build on the earlier cluster and career ladder studies, create an ongoing conversation among diverse regional workforce development stakeholders—all of the respondents interviewed about OCBC mentioned using the reports. Because of OCBC's partnership with the OCWIB, the cluster approach has begun to dominate the OCWIB's activities. The OCWIB has benefitted from the partnering because it allows the OCWIB to "rebrand" itself as a business-services-focused organization; moreover, as one outside informant argued, if not for OCBC, no organization would have stepped forward to shepherd the workforce reports and the Regional Skills Alliance. Prior to OCBC, no organization had found a way to manage collaboration because of the fragmentation in the county (34 incorporated cities and 3 WIBs).

Although OCBC and the OCWIB essentially share governance of workforce development in the county, there remain some essential differences in approach. Because as one WIB official said, "Our CBO board members are watching us," the OCWIB continues to focus on entry-level jobs as well as upgrade training. In contrast, OCBC's cluster approach emphasizes the need for high-skilled workers. As another WIB official pointed out, the idea is that the cluster approach is a:

> "first step toward ensuring a vibrant economic climate within the county. …And I don't believe a rising tide lifts all boats, because you need to have your boat in water. But if the overall economic climate of the county is good, with the sales tax rising and so forth, then you should have some of the resources to deal with some of the social issues."

Watsonville Digital Bridge Academy

The WDBA focuses almost exclusively on the supply side of the labor market, preparing disadvantaged community members to participate in the knowledge economy. Because the local industry base, small to begin with, was hit so hard by the recession, it made little sense to target a particular cluster for economic development. Instead, the idea became to develop a labor force of knowledge workers that would help the region compete once the economy revived.

The WDBA benefitted from the same clusters analysis by Collaborative Economics that guided the other CRIs, with a computer support specialist (CSS) ladder shaping its workforce development program. However, it ended up pursuing a different economic development strategy focused not on industry clusters or even occupations, but on skills. The bridge program gives its students programmatic skills for knowledge professions: project management, time management, and program management. The underlying premise is that there is a common set of skills underlying all knowledge-based work; from the bridge program, students can proceed into professional, technical training whether it's in IT or nursing.

Although one CRI leader argued that the workforce development demonstration project "opened the door to making use of information, learning how to make better use of information," those involved with the project generally rely less on labor market information than do the other CRIs. Because EDD data is already so dated by the time it circulates, it is not useful for designing workforce development programs. Instead, the project personnel rely on information from local CEO contacts; "They are the only ones that are planning for five years in advance."

The Santa Cruz WIB collaborates closely with the community colleges in workforce development in Santa Cruz, and, in fact, this WIB is the one of the few in California to mention career ladders strategies explicitly in its strategic planning documents. The WIB often involves Cabrillo College as the broker of training projects in the community; as one respondent explained, "The chair of the WIB understands that they couldn't do it because they didn't have the networks, the flexibility, the entrepreneurship, or the motivation." In the Santa Cruz region, the network of educators and government agencies that emerged from the original Coalition for Workforce Preparation continues to work on innovative ways to leverage resources, while the WIB is worrying about performance targets and the local businesses follow their lead. As the same respondent argued, "Here in Santa Cruz County, the industry is too small to lead…Somebody other than business needs to think through what to do and how to do it, and then follow through."

San Francisco Information Technology Consortium

Like Santa Cruz, the SFITC aims to place less-educated community members into knowledge-based, career-ladder jobs. Its mostly CBO members reject the idea of becoming exclusively business-driven; although they feel that training should be responsive to business needs, it needs to serve a second customer, disadvantaged jobseekers, as well.

Also similar to the Santa Cruz project, the SFITC resists the cluster approach (as in Fresno) or even the occupational approach (as in Orange County) as too confining. Instead, it gives jobseekers sets of cross-cutting skills, such as networking and database administration, that will help them advance in a variety of IT occupations. As in Santa

Cruz, the end educational goal is a college degree; toward that end, many of the classes offer college credit.

Unlike the CRI projects, SFITC did not use data to design its program and spark the collaboration. The "conversation starter" for the project was Dave Gruber's resource maps of where technology training programs were. Perhaps in part because of this original focus on the supply side of the labor market (i.e., educating workers), SFITC has never relied extensively on labor market information to guide its work. Instead, it consults directly with employers.

Under Mayor Newsom, San Francisco is gradually building closer links between workforce and economic development, and the SFITC is part of this shift. Although SFITC originated in a Department of Human Services effort, government (in the form of San Francisco's WIB, which is still called the Private Industry Council, or PIC) has played only a minor role, providing only occasional technical assistance. However, as the PIC has begun to coordinate better with economic development, SFITC, now housed at the PIC, has likewise started to work jointly with business attraction efforts. For instance, SFITC now works on tax credits for employers in enterprise zones. Although SFITC does not play a role in setting workforce development policy generally, PIC officials refer to it and its career ladder as a model for businesses and CBOs in San Francisco.

Although both organizational structure and economic development orientation shape program and organizational outcomes, undoubtedly the most important factor is program design, which we examine next.

The Workforce Development Programs: Origins, Design, and Stakeholder Involvement

Fresno Area CRI Water Technology Workforce Demonstration Project

Program origin. The idea for the workforce demonstration project at the Fresno CRI came from the Economic Future of the Great Valley report, by Collaborative Economics, which identified water technology as an emerging cluster in the region. Stakeholders in the cluster, including approximately 30 businesses, came together to prioritize issues in a meeting facilitated by Collaborative Economics and sponsored by the Fresno Business Council and Fresno State's Central California Futures Institute and Center for Irrigation Technology. Representatives from the Fresno Economic Development Corporation, the WIB, the Technology Trade and Commerce Agency, and the U.S. Department of Commerce were also in attendance, but as one CRI leader said, "Business didn't really notice them. You have to have business lead." Workforce turned out to be the businesses' main barrier to expanding, so the water technology businesses formed a workforce subcommittee, comprised mostly of bigger companies, to guide their efforts. Swearengin, the CEO of the Fresno Area CRI, acted as staff for the committee.

The major workforce problem is the aging of many journeymen in these industries, so the water technology businesses decided one of their key strategies needed to be marketing manufacturing careers in the community colleges. As with all of the CRIs involved in preparing grants for the Workforce Demonstration Project through JIF, Collaborative Economics and the EDD mapped out a career progression from welders to maintenance mechanics and computer numerical control programmers (Figure 2, Appendix III). Working with the manufacturers, they revised the ladder to fit reality on the ground. Then, with the community colleges, they worked on figuring out the educational requirements of each occupation. Together, they decided to focus on the welder, machinist, and maintenance mechanic occupations for the demonstration project.

When the manufacturers and community colleges finally sat down to discuss the existing applied technology program in welding, the manufacturers were surprised to learn that it had hundreds of students already. The problem seemed to be a failure of labor market information: Most students came for a welding certificate that would qualify them for a $12 to $14 per hour job, never attending the more advanced classes in aluminum and TIGS which would qualify them for better paying jobs with the manufacturers. So the idea of the program is to encourage the students to complete more coursework and finish their associates' degrees at the community college by exposing them early to the water technology businesses through internships. By formal agreement, manufacturers are not allowed to "steal" students; they can only hire students who stay in school. After a year of planning, recruitment for the program began in January 2003.

Program design and funding. The demonstration project, called the Careers in Manufacturing Technology (CIMT) training program, recruits students from the community college's applied technology program—i.e., students with some previous welding coursework in this two-year certificate program. In the summer, students work full time (i.e., 40 hours per week) as paid interns for water technology manufacturers. In addition, the students attend the Water Technology Training Academy, five training sessions of four hours each, with a curriculum including shop math, manufacturing flow processes, safety and health, teamwork and diversity, and basic job skills and character soft skills. Although the curriculum is written by the community college, businesses are involved as guest speakers and tour hosts. When they start school again in the fall, students may continue to work part-time. The project also includes other components: a career expo to encourage networking between businesses and students, a day-long supervisor training workshop, and outreach to high schools about manufacturing careers. The idea of the supervisor training workshop is, in part, to introduce workers to the community college in order to encourage them to return to school, complete a degree, and advance.

Since its inception, the program has had two major changes. Its target population shifted from high school students, participants from the one-stop (workforce development drop-in centers that provide jobseeker services), and incumbent workers, to high school students, community college students, and incumbent workers. The college students are

the only ones actually participating in the CIMT training program; high school students participate in educational events and incumbent workers in the supervisor training program. Secondly, after discovering that students were unprepared for the job search and transition to the workforce, the CRI has revised the program to ensure that students receive adequate soft skills training in the training academy, career expo, and college courses.

The entire water technologies cluster project has received $3 million in funding, mostly for research and development at Fresno State's new International Center for Water Technology. The WIB contributed approximately $500,000 to fund the cluster project generally, in return for routing job referrals from water technology companies through the Fresno One-Stop. In addition, JIF gave $150,000 specifically for the Workforce Demonstration Project.

Stakeholder involvement. Initially, the water technologies project mostly involved the businesses, Fresno State, and the Fresno Business Council. Soon after its inception, the Fresno Business Council spun off the Fresno CRI, in order to foster more diverse involvement with regional issues. The CRI gained responsibility for the water technologies cluster project, with very active involvement from the businesses, Fresno State, the WIB, and the government (particularly the commerce agencies). Then, because of the decision to apply for the workforce demonstration grant, new partners had to become involved; JIF wanted to see community colleges and the WIB involved more intimately with the project in order to ensure its sustainability. The following discusses the CRI role in coordinating the project and interaction among the various players.

The CRI sees itself as bridging a large communication gap between the community colleges and local business. The community colleges fail industry in multiple ways: for instance, their placement office often doesn't return calls from the companies; their semester system and complex curriculum approval process make it difficult to be responsive to industry needs; soft skills are not generally incorporated into the curricula; and business advisory boards meet only twice per year.

The CRI sees its role as shielding business from these shortcomings of the community colleges: "We don't let industry see the frustrations we have with the faculty…we are the soft spongy tissues between the bones," so there is no frustration exchanged between parties. Indeed, one community college representative involved is not aware of the frustrations: "We have good relationships with the manufacturers. I've known them for a long time." Asked whether the community college could put together the program itself, the representative added, "We could do it here, if we had the money…It would be a lot less convoluted, less hassle, a whole lot easier if we had Manjit [the program administrator] here. The program would still keep going without them, but it wouldn't have all the bells and whistles." But later, the representative admitted that the college would have taken two years to create the program and also would have fallen short in placement because of lack of job developers.

The CRI also acts as an intermediary between businesses and the WIB, but less successfully: "Even with the CRI as the intermediary, businesses resist the one-stop." The manufacturers have been reluctant to channel their job openings through the WIB, because of the longstanding lack of trust. As a CRI leader said, "The WIB is disenfranchised with the rest of the community…Now they have to overcome their past to be a business service organization." Originally, the CRI anticipated using the One-Stop to help with recruitment and placement, but in practice the WIB has not been involved in the program. This may change as the WIB begins funding the program in its third year and as it develops more of a business service orientation.

Day-to-day operations of the workforce development initiative remain the province of the CRI staff, who are responsible for intern recruitment, intern screening, case management, intern placement, and retention; there is little awareness of the program on the part of other players in the project.[25] Yet, participants do not perceive the CRI as heavy-handed. As one told us, "Leadership comes from the partners depending on the issue, according to their expertise."

Although CRI staff have little or no formal training in collaboration, they have a sense of how to get others involved. Says one CRI leader, the way to avoid political infighting is to identify "key leaders." Another leader emphasizes the idea of power parity: "It doesn't matter where ideas come from, whose the skills are; it matters that you made the right decisions for the right reasons." At the same time, responsibility for outcomes remains uneven among the partners. While CRI staff are attuned to JIF's expectations, and the WIB feels accountable for placement numbers due to its obligations to the state and the contribution of government money, the community college has not stayed abreast of program outcomes and was surprised to be asked about them.

Gateway Cities Partnership Global Logistics Workforce Demonstration Project

Program origin. The Global Logistics Entry-Level (GLE) training project at Gateway Cities grew out of an existing program at California State University, Long Beach, the Global Logistics Specialist (GLS) program.[26] That program, a professional-level program for international trade logistics, came into being at the urging of Hollingsworth, who worked in the industry at the time. A highly successful program that has graduated about 700, the GLS program was actively developed by industry leaders and fills the need for a certification ensuring expertise in supply chains and freight costs. The GLS advisory board, which includes Hollingsworth, identified a need for entry-level training in global logistics, a remedial program for those not yet ready to enter the GLS program. By this point, Hollingsworth was heading the Gateway Cities Partnership and married to Marianne Venieris, who was in charge of the GLS program at the Center for

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[25] Repeated attempts to interview several different employers were unsuccessful, so it is unknown how familiar they are with the project; however, interviews with other respondents suggest that they have not been involved on a day-to-day basis.

[26] Workers in the logistics industry conduct and manage the transportation and distribution of goods.

International Trade & Transportation (CITT). As several participants in the project told us, their marriage is the key to the collaboration.

As with all the CRI programs applying for the JIF demonstration program, Gateway Cities benefitted from the help of Collaborative Economics and the EDD in clarifying the career progression for workers in global logistics (Figure 3, Appendix III). In contrast to the others, however, Gateway Cities looked at how to create a new bottom rung for the career ladder rather than how to develop an upward career trajectory. Beginning around the same time (but separately), the Mott Foundation, assisted by the Center for Community Change, conducted a sectoral analysis of international trade and transportation to determine what entry-level opportunities were available. As one of the initial players says, "This is a classic example of two disinterested parties coming together, looking at the research, and saying 'Wow, there it is.' It's fairly clear what the skill gap is, where the delivery of education is not there." Said an outside informant, "This was a big leap. They saw the gap in the career ladder for entry-level, and created a brand new program."

The basic idea for the program was to attract students with little or no college education to the GLE program, have them get two years of work experience, send them to the GLS program, and then gradually help them to pursue a degree program at a community college or CSU Long Beach. Tom Pendergast, working for Mott and the Center for Community Change, began partnering with Gateway Cities, funded by the JIF grant, to create the curriculum for the four-week program, with a focus on skills that would be needed for students who had only a high school diploma or less. The pilot program began in January 2003.

Program design and funding. Upon enrolling in the program, the students worked with the instructor to develop individualized plans, with extra training in math, English, and basic computer skills (e.g., Microsoft Excel and Outlook) for those who needed it. The program lasted 100 hours over the four weeks, meeting Monday through Thursday; in the first round, the students needing remedial training in math also attended Long Beach City College for an additional 40 hours. In addition to computer training, the curriculum included instruction on basic trade-related business skills and logistics software, to help students understand how goods move. Because most software for logistics companies is proprietary, some questioned whether training on one particular program is useful; however, an employer defended the approach, since training on any software makes it easier to train new employees on the job.

The GLE program taught soft skills both by integrating them into the technical skills training and as stand-alone modules on the job search and interviewing. Students learned the logistics software through a project-based learning approach. In learning teams of five, students developed a product under deadline, and with rotating leadership, to get experience with teamwork and other aspects of the work process such as critical thinking and crisis management. Using the CITT's employer contact lists, students

honed their interview skills through group informational interviews with logistics employers. Also, because of the Mott Foundation's role in the project, students received counseling prior to placement and during their first year of employment, to ensure that students continued to navigate the job successfully.

To fund the students ($2,500 per person), the CRI won some of the governor's discretionary funds for disadvantaged worker training ("15%" Workforce Investment Act (WIA) funding), but had to settle for $300,000 in dislocated worker funding ("25%" WIA funding) because the 15% money had run out. The Mott Foundation's role in the project helped to provide technical assistance and financial support. For the second round of training, the CRI relied on a new $150,000 JIF grant for implementation, as well as funding from the Center for Community Change and Mott to expand outreach and counseling, as well as purchase computers. With enough funding to train 100 people, the CRI turned to two CBOs, the Oldtimers Foundation and Watts Latino, for assistance with recruitment and counseling, particularly in very low-income Spanish-speaking communities. The program attracted recent high school graduates with at least 10th grade math and English, eliminating the need for remedial training. Another change was in the placement component: Gateway Cities will assume responsibility for placement, eliminating the WIB as a partner in the project.

Stakeholder involvement. The partners and their roles in the project changed considerably since Gateway Cities' initial proposal. The one constant was the involvement of Long Beach State, whose participation was critical because of their credibility in global logistics. As one participant said, "industry had to take notice" because of the Long Beach State certificate. Unlike the Fresno CRI, and to a certain extent the Orange County Business Council, Gateway Cities had pre-existing strong relationships with local universities and community colleges, many of which serve on its board; prior to the JIF workforce demonstration project, four community colleges and two universities had already worked with Gateway Cities on a machinist training program, funded through the U.S. Department of Labor's H1-B grant program.

Initially, Gateway Cities included the Long Beach WIB in its proposal as the fiscal agent with a role in outreach and placement. However, the Long Beach WIB did not actively participate in the proposal preparation because it wanted assurances of access to the program for Long Beach residents. In the end, the Southeast Los Angeles (Selaco) WIB, on the board of which Hollingsworth serves, replaced it in the project. Another workforce organization mentioned in the original proposal, Long Beach 908 Works, was too disorganized to join the project.

Thus, as in Fresno, the major players—for the first round of training—turned out to be Long Beach State, the community college, the WIB, employers, and the CRI. As fiscal and operating agent, the WIB recruited students; training took place at the community college and university, and the WIB took charge of placement; the CRI was to play an oversight role. However, in reality the division of labor was not so clear-cut,

with turf issues emerging particularly between the CRI and the WIB. For instance, both the WIB and the program instructor wanted responsibility for helping the students with resume preparation, which created some tension. More importantly, the WIB failed to place most of the students: the instructor and the CRI quickly had to take charge of placement.

From the WIB's perspective, the problem was the short timeframe of the project, which created communication problems as there was only one meeting with all the different players: "There is a cost to collaborating…we are trying to take separate agencies and make them work together without any additional resources to make that happen." But according to others more closely involved with the students, the problem was the WIB's failure to build connections with the employers, instead relying on job openings from Monster.com for the students: "The WIB failed to understand the nature of this industrial sector." With overloaded case managers, the WIB was unable to give students the attention necessary; students reported back to the program that their experience at the WIB was demeaning.

The WIB and the CRI also differed about who held overall responsibility for the project. According to the WIB, "We were the administrative agency that put the whole thing together; we operated the program; we found the people, we brought them in, we paid the bills, we did the case management; we were the operating agency; we took on the entire responsibility for placement; and Gateway Cities wasn't that involved in it once it was up-and-running…Richard doesn't do projects, the WIB does." The WIB also saw itself as responsible for the project's outcomes, as the fiscal agent.

Yet one employer familiar with the project was not even aware that the WIB had a role in the project. According to this firm, "The program is being driven by Long Beach State with input from Richard and others. Long Beach State is an industry resource, so we wouldn't look to the WIB for these programs." The CITT has very strong relationships with the logistics sector; as many as 1,000 local industry leaders join CITT at their annual meeting.

Most perceived leadership and responsibility coming from the CRI. Asked if the structure of the collaboration was more hierarchical or horizontal, one of the participants responded, "No, I don't believe in horizontal. In this industry you have to be responsive. And if you make decisions based on agreement, you don't get anywhere. There are decisions that have to be made. And therefore, you have to have someone on top." As Hollingsworth said, "If we're not doing it, who will?"

In later rounds of the project, which lasted eight cycles including the beta rounds, the CRI effectively eliminated the WIB's substantive role by hiring a new project coordinator at Gateway Cities to handle recruitment and placement and partnering with the two CBOs, the Oldtimers Foundation and Watts Latino, for outreach and case management if necessary. Said one player, "There's a recognition that grassroots organizations will probably do the best job of tapping into the community." But

ironically, the results for recruitment were still disappointing: in a follow-up interview the following year, the same player said:

> "We were naïve in the grassroots organizations who thought they could access the communities. They didn't have grassroots organizers; they claimed a philosophy, but when you worked with the organizer in the community, it fell apart. They didn't have the experience of doing a program such as this."

Hollingsworth sees partnering as a way of fostering long-term relationships, developing a physical presence for Gateway Cities in the community, and building the capacity of the CBOs, which is central to the CRI's mission. But in this case, since the WIB lacked connections to employers and the CBOs lacked the talented personnel to design programs and seek grant funding, the Gateway Cities Partnership CRI ended up playing a critical role not so much as facilitator, as in Fresno, but in both project operations and oversight.

OCBC Computer Support Specialist Workforce Demonstration Project

Program origin. Prior to competing for the Irvine Workforce Demonstration Program grant, OCBC had begun working on workforce issues, holding discussions "at the 50,000-foot level" with potential WIB and community college collaborators. A strategic planning process conducted by McKinsey & Co. in 1999 had identified workforce development as employers' highest priority, and subsequent focus groups found high demand in information technology. Thus, the career ladders analysis by Collaborative Economics and the EDD focused on the low end of the IT career ladder, starting with the computer support specialist occupation (Figure 4, Appendix III).

At the pre-proposal meeting led by Collaborative Economics, thirty different organizations were at the table, including local educational institutions, the WIBs, a couple of business representatives from OCBC's Workforce Committee, and other government agencies. Consultant Dave Gruber discussed the experience of the SFITC in computer support specialist training. Unlike the other CRIs, OCBC did not refine the career ladder analysis with businesses; in contrast to the water technology and logistics career ladders, the IT occupation cuts across many different sectors, complicating employer involvement. However, OCBC's research indicated that the demand for computer support specialists was high, and the businesses on the Workforce Committee said, "We need those kinds of people." Furthermore, OCBC wanted to move away from occupation-specific training for which skills could become obsolete; they felt that IT skills would remain relevant over a long timeframe, since they offer "more capabilities to do more things."

OCBC began working with Rancho Santiago Community College to design the program, but it quickly became apparent that Rancho Santiago was not ready to participate. Instead, OCBC Vice President Paul Garza turned to his wife Anna Garza,

noncredit matriculation coordinator at the North Orange County Community College (NOCCC) District, for assistance in refining the proposal and implementing the program.

Program design and funding. The initial program involved a variety of different stakeholders—OCBC, NOCCC, the WIBs, and two CBOs—offering a comprehensive workforce development program, including broad recruitment, technical and soft skills training, case management, placement, and post-employment services. However, when OCBC failed to win funding from the governor's discretionary funds, the design changed substantially. The partners were eliminated from the program, and the focus became building the infrastructure at NOCCC to do computer training in the future. The community college would handle all components of the project, using its career center to assist with placement. From the JIF implementation grant, the community college received $49,000, which it used to build a computer lab and help pay for the instructor's salary and the contextual English instruction. Using the JIF money, the college was also able to leverage about $200,000 of additional funds from the community college system (the Vocational Training Education Act as well as state apportionment funds).

The course, which was noncredit, lasted 16 weeks, with class three days per week. The class followed the A+ textbook but also incorporated much hands-on learning. OCBC had wanted limited English speakers to join the program, but the instructor quickly learned that the 10th grade-level textbook was too difficult for most. Although the curriculum did not include any soft skills, staff provided informal counseling and job search assistance to those in need in supplemental (but required) workshops. The program was supposed to offer unpaid internships, but organizing them proved difficult (as discussed further below).

The community college modified several components of the program for the second iteration. To accommodate limited English speakers, the college arranged for several courses to feed into the computer training program. Staff broadened recruitment and refined their assessment of candidates to require a reading test, some experience with computers, and high levels of motivation to enter the field. At the end, students took an optional one-day course on taking the A+ test, increasing the number of students who took the test to two-thirds of the class.

Stakeholder involvement. The workforce demonstration project solidified some relationships, while others failed to get established. The NOCCC district had done "some minimal things" with OCBC in the past—for instance, the chancellor sits on the Workforce Development Council—but they are not represented on OCBC's board and they had not worked on a project together until the CSS program.

The OCWIB, which was already deeply involved with OCBC on its clusters projects, sent a representative to early organizational meetings but withdrew from the project as their pool of federal training dollars dried up. Hoping at least for student

referrals from any of the three local WIBs (including Anaheim and Santa Ana), the community college did presentations about the program to the WIBs, but with no results.

The original proposal listed two community-based organizations to be involved with recruitment and screening: the Women's Opportunity Center at UC Irvine and Taller San Jose, a faith-based organization in Santa Ana. Ultimately, neither CBO was involved with the project. According to OCBC, "Some of those fell out when we had to scramble after we didn't get the 15% money." Although OCBC is interested in partnering and helping CBOs build capacity, they suggest that it's difficult for the CBOs to participate: "The funding environment for these organizations, they're not looking for new projects, they're looking at their own survival."

One CBO head offers a different perspective. Surprised that OCBC had used its name in its grant applications, the CBO head told us, "I don't know that we ever had any funding or any initiative from their end to work with us or from our end to work with them. I'm not aware of that…They could have put our name down. But they don't know what we do." Ironically, the CBO is a WIA-eligible training provider that offers a comprehensive A+ certification program to disadvantaged Santa Ana residents, including recruitment and screening, a fully developed technical and soft skills curriculum, and job development—a highly qualified partner for the community college and OCBC. Said its representative, "I'd love to collaborate with OCBC, but we haven't gotten a chance to."

Although OCBC's Workforce Development Council initially helped shape the project, it played little or no role in the subsequent implementation. Several members of the Council offered internships for program graduates, but none actually materialized, due to differing expectations about student preparedness and conflicts over workers' compensation coverage.

Thus, with no active partners, the community college took on responsibility for all phases of the project, from recruitment to retention. After the initial meetings, OCBC gave minimal input. According to the community college, "We work pretty independently—we gave them a proposal about what we were going to do and checked back with them from time to time." In stark contrast to both Fresno and Gateway Cities, the OCBC staff not only delegated responsibility for the project, but also were not familiar with the day-to-day operations of the program.

WDBA Workforce Demonstration Project

Program origin. The Watsonville Digital Bridge Academy stems from the early workforce development efforts of the Coalition for Workforce Preparation and the work on clusters facilitated by Collaborative Economics, which became the Santa Cruz Clusters Project. Although the CRI is dormant, its workforce development projects—the Digital Bridge Academy and the Ladders Project—remain active, under the leadership of Cabrillo College. The idea to focus on IT grew out of the software cluster and stemmed from the business leadership of the CRI (including Navarro and others). Like OCBC, the

WDBA modeled its program around a broader computer-related career ladder, centered on the computer support specialist occupation (Figure 4, Appendix III).

Program design and funding. The WDBA program consists of three components: a "foundation" course, a "bridge" semester, and work experience. The foundation course is a 120-hour immersion institute featuring both developmental and experiential learning models and integrating soft skills with technical skills. The students first develop knowledge of their personal learning styles and then work in teams on a project, using a problem relevant to students' lives but also programming and computer systems (such as programming Lego robots).

The bridge semester is a 16-week semester of accelerated courses in college-level math and science, computer systems, English, and physical education. This bridge is meant to prepare the students for the regular IT program at Cabrillo—or other knowledge-based career tracks such as nursing. Work experience occurs through internships after the bridge semester.

After the first year of pilot programs, WDBA restructured the foundation and bridge courses. Because students found it difficult to stay focused for the 19 weeks of coursework, WDBA incorporated the 3-week foundation course into the 16-week semester. Moreover, to make the impact of the immersion experience continue through the entire semester, WDBA shifted the third week of the foundation course to the eighth week of the bridge semester.

The model includes support services (such as child support and drug and alcohol treatment) with a case manager providing a single point of contact for all services. The target population is at-risk students, ages 17–25, who may not consider themselves to be college-bound or who are underprepared for IT training at the college level. Students typically are either at-risk (defined as one or more of the following: low-income, disabled, or single parent) or high-risk (coming from foster care, a high school dropout, and/or formerly or currently on probation for criminal justice violations). To reach these students, recruitment takes place through a variety of agencies such as the probation and mental health departments.

The WDBA has garnered well over a million dollars in funding from the National Science Foundation, the David and Lucile Packard Foundation, JIF, Cabrillo College, Santa Cruz Human Resources Agency, and the City of Watsonville.

Stakeholder involvement. The WDBA is essentially an arm of Cabrillo College and as such does not have formal partners. However, a broad array of agencies, including the Santa Cruz Human Resources Agency, the WIB, and the departments of Probation, Mental Health, and Child Support Services, are involved in recruitment and provision of support services. An advisory board includes representatives of these agencies, city government, and business (HP and Cisco), and WDBA staff meets regularly with them individually as well.

The head of the WDBA (Navarro) is responsible for overall program design and fund development and management, while staff handle case management. The faculty associated with the WDBA jointly develop curricula.

San Francisco Information Technology Consortium

Program origin. In summer 2002, the new IT collaborative received an H-1B grant ($3 million) and also the on-the-job training money from the Governor's 15% funds ($900,000). Funded also by JIF (to conduct strategic planning) and Jobs for the Future, a workforce development think-tank, the SFITC developed its mission and bylaws and finally hired staff: an executive director, a business developer, an on-the-job training specialist, and one supporting staff member.

There were rapid organizational impacts. As one key player says, "Often what happens is you get galvanized around resources…It became a system because of resources." Most of all, there were meetings: "This is a high-maintenance collaboration." But also, a collaborative program began to emerge, in particular reshaping curricula, recruitment, and job development. The SFITC as a whole is intended to develop into a labor market intermediary for IT occupations, while the specific partners gain greater competency in training, employer relationships, and client support.

Program design. The SFITC has gradually reshaped the way each of its members conducts its IT training programs, in addition to creating a new intermediary for job development. For instance, H-1B monies helped develop relationships between City College and JVS (modeled on the earlier collaboration between Mission College and Glide), contributing a "portable college curriculum," on-site registration, and college credit to JVS' Unix administrator training program.

The SFITC's target population is broad-based but focused on the disadvantaged, as is the clientele of its member organizations; it includes ex-offenders, at-risk youth and adults, welfare recipients and other economically or educationally disadvantaged San Franciscans.

Because of the SFITC, programs have changed the way they do recruitment. For instance, 25–50% of students at the advanced programs (e.g., at BAVC and JVS) might come from collaboratives. Actualizing this idea of transferring to build career ladders was only possible through H-1B funding, which allowed transfers to count as placements. To make this work, the SFITC developed student transfer agreements outlining the pre-requisites for entrance into each program. Funding also helped to pay for the coordination of curricula: there is no duplication of services except in basic office skills. As one respondent said,

> "It becomes a seamless process. Goodwill knows what to prepare
> in for BAVC. Programs save slots for each other because they have
> transfer agreements. Everyone understands the basic criteria for training."

Another aspect of the program is joint case management, which in the long run should help improve outcomes. One member observed that:

> "The strength of the collaborative is the passing of knowledge. It means that we have a community of people supporting a person. So there's much more effort and time put into one person's success."

Grant funding has also made possible the development of a centralized infrastructure for employer outreach. The SFITC job developer does not have to focus on the day-to-day placements, but can focus on the labor-intensive task of building relationships with business. Where the member organization's job developer tends to shape the job for the client, the SFITC's developer works on helping the trainee fit the job by conducting extensive pre-screening. While individual job developers tend to look for any job opening, the SFITC developer has time to be strategic, in this case, reaching out before the job is listed and generating job leads from the small- and medium-sized businesses that are most likely to hire locally.

Stakeholder involvement. Although the program's emphasis on job development has gradually increased employer involvement, the partners remain the seven CBOs and City College. Two government agencies, the DHS and the PIC, retain only a very small role in the project, helping in grantwriting.

Responsibility for program components varies. Individual organizations generally handle recruitment, drawing from the collaborative's constituent base, DHS (e.g., welfare-to-work clients), incumbent workers, and to a limited extent, San Francisco's one-stop system. Curriculum development is also the responsibility of individual CBOs, but the SFITC coordinates some activities, such as professional development. Job development is done both at the SFITC level and individually. Individual members handle case management and counseling. Screening for placement occurs first at the individual organizations and then at the SFITC. Finally, tracking of graduates is centralized at the SFITC. And of course, the SFITC director is responsible for fund development.

The SFITC holds its individual partners responsible for outcomes, but ultimately, the collaborative itself must take care that the CBOs as a whole are meeting funders' requirements (e.g., for placement). This presents difficulties, since the CBOs are simultaneously managing students within one class funded by different grants with different requirements for placement, while the SFITC must follow just one set of rules. Thus, asked to define a placement, the CBOs varied widely in their definitions: for instance, some count transfers between programs, while others count new responsibilities within the same job.

In principle, the partners see themselves as equals, different but complementary. Different groups tend to lead on different issues. However, several factors influence how much each CBO is involved. Funding is uneven among the seven partners, with BAVC,

JVS, and Glide getting more than the others; as a result, these players have often had more say over policies than the others, particularly OpNet, the sole unfunded member. More importantly, capacity varies widely among the players. Most agree that BAVC has the best understanding of the IT sector—says one, "BAVC gave us legitimacy in terms of business." As a result, its placement rates tend to be much higher than some of the other members' (for instance, 75% versus 20–30% for some other partners). If any one member stands out, it is City College, which is less used to working with the target population of the SFITC. As one of the CBOs says, "We've had to educate them about the students who won't come in their door."

Increasingly, local businesses have also become stakeholders. For instance, through corporate advisory councils, employers give input on labor demand, skills requirements, and curriculum changes. Employers have also held informational sessions on how to prepare for an interview. These interactions help to build networks between the SFITC and businesses, which may or may not translate into actual job placements.

Table 2 summarizes the workforce development programs. Each of the factors or variables in the table has shaped the outcomes of the projects, as discussed in a later section. Although it is not possible to rank the variables in order of importance, it is clear that funding, soft skills and placement efforts, and day-to-day project management each play a critical role. The next section discusses in more detail how the approach to collaboration shaped project management for each collaborative.

Table 2. Workforce Development Program Characteristics

Organization	Program origins	Program funding	Program format	Target population	Soft skills	Placement efforts	Day-to-day management
Fresno	CCRL Clusters/WD project	$150,000 -- JIF, plus additional support from WIB	Community college coursework, summer internship and training academy (20 hours)	Community college students, high school students, one-stop participants, and incumbent workers	Minimal	Major	CRI
GCP	CRI head; CCRL Clusters/WD project	$600,000 -- CA governor's WIA discretionary funds, JIF, Mott	4 weeks, 100 hours	Disadvantaged adult community members	Extensive: integrated with technical curriculum	Major	WIB, Long Beach State, Mott/CCC (1st round); CRI, Mott/CCC (2nd round)
OCBC	McKinsey report; CCRL Clusters/WD project	$350,000 -- JIF plus community college matching funds	semester course	Community college students, non-English speakers, unemployed/ underemployed	Minimal	Minimal	Community college
WDBA	Coalition for Workforce Preparation; CCRL Clusters/WD project	>$1,000,000 - JIF, Packard, Cabrillo College, NSF, City of Watsonville, SC HRA	3-week academy, semester course	"Under-prepared students": at-risk, minority, ex-felon, reentry, and foster care students	Extensive: integrated with technical curriculum	Major (into college, not jobs)	Cabrillo College
SFITC	SF DHS, PIC, and BAVC; Irvine Foundation	$4.5 million -- USDOL, CA governor's WIA discretionary funds, JIF, Jobs for the Future, Haas, Packard	3-6 months	Disadvantaged adult community members	Extensive	Major	SFITC

Conclusion: Collaboration in Workforce Development

Behind each of these regional workforce development collaboratives is the idea that collaboration will make them more effective. For the Regional Workforce Demonstration Projects, the CRIs were required to work with a variety of system partners each bringing different experience with and perspectives on workforce development to the table. The principle behind the SFITC was also that CBOs and community colleges need to collaborate to solve problems that they were unable to address alone, such as determining gaps in skills training.

As one workforce development expert points out, "The problem is that most don't know how to collaborate." A WIB director expounded in detail on the difficulty of starting the new collaborations envisioned by WIA: "We need to learn how to collaborate. Give us five years and it will be a no-brainer." Learning is slow because collaboration has a cost: "Combining does not increase resources…It increases complexity."

Just one CRI head spoke to us of the difficulty of collaborating, suggesting that the CRIs need to support leadership development more systematically, with money from foundations: "Otherwise we are just inventing how to work together." Most CRI leaders are optimistic about collaboration; as one said, "You have to work together, trust each other; you have to care so deeply about the outcome that you leverage resources and work together. And then backward mapping from knowing what you want to accomplish." This optimism stems less from naïvete than from different approaches to collaboration. Some collaboratives function more as intermediaries, whereas others genuinely collaborate, acting as a network of organizations with collective responsibility to meet shared goals.

In particular, the CRIs tend to treat their partners more as clients than as collaborators. Although participation is generally broad, in most cases the CRI retains responsibility and ownership for the initiative. As one expert described it, "The CRIs deal with system partners, so they're kept invisible…For example, the CRI, in one case, shielded the business people from the WIB and all the workforce mechanics because CRIs are conveners. This established a credibility in workforce development for people." As the head of one CRI told us, "There has to be a buffer between that absolutely blunt business person and that well-meaning…person that is at some of these other programs." The CRI working in this intermediary role shields partners from each other, convenes groups for specific projects, and retains ownership of the larger vision for changing the workforce development system. As another CRI leader explained, "We are creating models for replication, but we need others to bring them to scale."

At the other extreme are the other regional workforce development collaboratives. At the SFITC, participation is much narrower, with only the training providers and WIBs involved. But ownership of the initiative, as well as overall accountability, is joint, formalized in memoranda of understanding and strengthened by an ongoing group dialogue (including two multi-day retreats). In general, responsibility and resources for

implementation are shared among the partners, who have benefitted from ongoing, JIF-funded technical assistance from consultants. At the WDBA, participation is even narrower, with both design and implementation managed in-house. But like the SFITC, the WDBA consults on an ongoing basis with business and government partners. In contrast, dialogue for the CRIs tends to consist of CRI leadership negotiating individually with its partners, rather than full group meetings, which are only held at the project's onset.

The following looks at each collaborative in terms of four dimensions of collaboration—participation, ownership, dialogue, and overall organization role—from an intermediary that shields partners from each other to a collaboration among networked partners (see Table 3). The structure of these collaborations affects program outcomes, as is discussed in the next section.

Table 3. Collaboration Among the Collaboratives

Collaboration	Participation	Ownership	Dialogue	Organization role
Fresno	Broad	CRI	Fragmented	Intermediary
GCP	Broad	CRI	Minimal	Collaborator/Owner
OCBC	Broad/Narrow[a]	Community college	Extensive/minimal[a]	Intermediary/Organizer
WDBA	Narrow	Community college	Fragmented	Owner
SFITC	Narrow	joint	Extensive	Intermediary/Collaborator

[a] Planning vs. implementation stages.

Fresno

The Fresno CRI remains responsible for implementation and actually performs many components of the workforce development project in-house, while also involving the community colleges in day-to-day operations. Participation remains broad, including business, both city and state colleges, and to a lesser extent, government agencies. This is most likely due to Fresno's ownership of the project. One key informant suggests that Fresno CRI projects are generally more inclusive than those of the other CRIs because it has a uniquely fluid management style in responding to different issues. However, as noted previously, its inclusiveness may be restricted to the "like-minded."

The CRI ensures ongoing involvement from business and the community college in part by shielding them from each other. Referring to community college jargon, one leader said, "You can't have any alphabet soup in front of the businesses." Likewise, the community colleges are not kept informed about the business involvement and CRI activities generally. For instance, one community college representative involved in the project had not heard of the CRI and thought the project was managed by Fresno State. As a CRI leader says, "They don't know they are part of a major social redesign." Thus, there is substantial dialogue, but mostly between the CRI and individual stakeholders

rather than among all participants. The CRI acts essentially as an intermediary on this workforce development project.

Gateway Cities Partnership

Like the Fresno CRI, the GCP project has engaged many different partners, including businesses, community and state colleges, CBOs, and the WIB. But while GCP functions also as an intermediary, its inclusiveness creates the impression that it is acting as a collaborator. For instance, asked if GCP shields business from the community colleges as in Fresno, a board member says, "No, Gateway is working to expose businesses to community colleges." Another informant, expert in workforce development, equates Gateway Cities with two of the "best" CRIs, which are "subtle about getting people to the table"—Joint Venture: Silicon Valley and Sierra Business Council. Gateway Cities' approach to collaboration was so subtle that one player peripherally involved with the project said "I have no idea who is leading the project."

Yet many point to the broad level of participation as one of the workforce development project's weaknesses. With considerable overlap in expertise among the various players, there was confusion about who would do what and who ultimately owned the project. The collaborative members only met as a group once, so there was minimal dialogue. Said one member, "There are too many bosses involved…too many fingers in the pie." Collaboration came less from the need for partners with complementary skills than from the foundation and government mandate.[27]

Ultimately, Richard Hollingsworth had to step in to micro-manage the project, taking responsibility for recruitment and placement and changing the role of the organization from intermediary to owner. Several involved with the project suggested that Gateway Cities was the most motivated to make the project work, and the value of GCP is mostly Hollingsworth's personality. In the end, the GCP effort began to look more like the Fresno project, as GCP took on responsibility for day-to-day operations.

OCBC

The OCBC has played both an intermediary and an organizer role, nominally involving a broad array of participants but carefully distancing business from the nuts and bolts of the workforce development programs. At the onset, business involvement was key in identifying the need for the program. As one workforce development expert explained, "To get credibility, you need business there to say this is where the jobs are going to be, to articulate demand." Extensive dialogue among the diverse stakeholders occurred in these earlier stages.

But in practice, with management of the project delegated entirely to the community college partner—and no funding in addition to the JIF grant—participation

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[27] The governor's 15% funding required Gateway Cities Partnership to use a WIB as its fiscal agent.

quickly narrowed to just the NOCCC staff. As noted previously, at least one proposed CBO partner was never even informed about the project, and in part due to the minimal level of business involvement, the proposed internships failed. Accountability also resided exclusively with the community college; OCBC staff remain unaware of the details of the project and its outcomes. Said one OCBC leader, "We're not in the business of doing training." But also, OCBC leaders see a hands-off approach as "necessary to see where help will be needed or where relationships must be strengthened over a long haul."

Interestingly, in its other workforce development initiatives, the OCBC has developed much richer collaborations. After a couple years of building a relationship with the Orange County WIB, OCBC and the WIB have joint ownership of both the ongoing clusters project and a new Regional Skills Alliance; the latter relationship is even formalized in a Memorandum of Understanding. An outsider familiar with the CRI suggested that, of all the CRIs, it alone has reached the "trust and delegate" phase of collaboration with its WIB. An OCBC leader showed a sophisticated understanding of how the collaboration works:

> "The trouble is that when you have a discussion about where your growth clusters are, and when you start thinking in those terms, about training your workforce for the future, that's a sea change for the PICs and the WIBs. They thought it was going to happen in a day, and it didn't. In fact, it takes a long series of discussions, and research has to be a part of it. They have to understand it; they have to be a part of it…They can see that you're not going out and bashing Dave's School of Drafting, but in fact you're saying maybe we should be looking at these things. And it has to be everyone moving that direction…And it's real comfortable to say, 'I'm going to give you some instructions and you're going to do it,' rather than going through the difficult process of explaining how you got to that page initially, and bringing the group along to it. And that's what collaboration is about."

However, it remains to be seen what kind of role OCBC plays in its future workforce development collaborations as it learns what relationships are important. In its first experiment with an actual workforce development program, OCBC proved to be more of an initiator than an implementer.

WDBA

Just as the Santa Cruz Clusters Project has essentially become an undertaking of Cabrillo College, the Watsonville Digital Bridge Academy is owned and managed by the community college, with only a small role for outside partners—an advisory board with representatives from business and government technically oversees the project, and the WDBA taps into various CBOs and agencies to recruit its students. Although there is

extensive dialogue through these channels, only the community college staff actively participate in the project.

Perhaps since the project director himself brought perspectives from business and education, those involved with the project see little role in implementation for other partners. WDBA selects its funding partners carefully as well, choosing to apply for National Science Foundation funding because it encourages experimentation to find out what works—as opposed to the Department of Labor's approach:

> "The Department of Labor's grants are based on throughput numbers. It seems like Washington is most interested in numbers served rather than how well they are served. It's a bad system. We need success; we need to learn how to meet the needs of at-risk youth. How to meet these youths' needs is not a science right now, so focusing on throughput is not the right issue since we don't have the right knowledge to know what works."

Like the Fresno Area CRI, Cabrillo College (and originally the Santa Cruz Clusters Project saw itself as doing the "messy work" of shielding the businesses from the WIB. To get things done, the WIB often relies on the community college as an intermediary. The college does not encourage business to play an active role in any of its workforce development projects:

> "This is our vision for their role: We want to be proactive and have them be reactive. We want to go to them and say, 'This is what we want you to do. What do you think?' They are much more eager to work with us if we do the organizational work."

Thus, despite its origins in a collaborative effort of educators, government agencies, and business, the WDBA actually functions more as a stand-alone experiment by the community college than as a workforce development intermediary or collaborative.

SFITC

The SFITC functions as both collaborative and intermediary. Like the Fresno CRI, it shields business from the complicated work done by the training providers—in this case, CBOs rather than community colleges. As one participant explained,

> "What we add [to the individual CBO] is our knowledge of other employers [and thus of multiple opportunities]. We become the one point of contact for numerous employees [through centralized job development]. We prepare their graduates through mock interviews; we give them additional preparation that is removed from the agency, away from the social service atmosphere."

Like GCP, the SFITC collaborates, but unlike GCP, it does so with a clearer division of labor, no duplication of services, and lack of resentment among its members. Most credited the large number of meetings for this. Said one, "It's a very good collaboration. We are cohesive." However, as one outside expert pointed out, as a collaboration with mostly CBO members, the SFITC has not faced the challenges of cross-sectoral interaction that the CRIs have. Employers remain in an advisory role, rather than developing a long-term commitment to workforce development and hiring, as in Fresno's water technology cluster.

Conclusion: The Value-Added of Collaborating

Thus, these workforce development initiatives vary substantially in the extent to which they believe in collaboration. The Fresno CRI and OCBC functioned more as intermediaries; GCP (at least at first) and the SFITC acted as part of a network; and WDBA worked essentially alone (although informed by participants from government and business sectors). In fact, it is doubtful that any of these initiatives would have collaborated at all were it not for a foundation and/or government mandate. Asked what the value-added in collaborating was for the CRI, one WIB representative was cynical: "The [CRI] works with us for the money, and because it gives them the collaboration they need with a public workforce system, and because they can have influence on where the WIB is putting its money." Although this CRI gets financial resources, legitimacy, and influence from its relationship with the WIB, it apparently has no need for WIB expertise or connections (as the CRI head later confirmed).

Another WIB key informant expressed misgivings about collaboration: "If the right people are involved, it can be effective, but it still remains to be seen if…collaboration will still be worth the cost. These are hidden costs, the costs of what doesn't get done because I am collaborating." A community college informant was skeptical about costs in a different sense: "There's been a tremendous duplication of effort between the WIBs and the community colleges." Another potential cost is in the dilution of resources. More partners mean not only less funding but, in the case of the SFITC, the loss of potential employment opportunities as individual CBOs share job leads with each other. As one partner questioned, "How much do we want to dilute these employer relationships by sharing them?"

Yet there is clearly some value for those who do actually collaborate, using a networked approach to solve complex problems. Most obvious are the benefits of cross-sectoral collaboration, particularly if partners from business, government, and education all play meaningful roles (whether administrative or advisory) throughout the project. As a CRI member said, "We look at workforce development and education as two different things, and that's part of the problem; they're not." Secondly, collaboration can help the flow of information, which in turn streamlines service delivery, prevents the duplication of services, and reduces costs (c.f. the SFITC case). Finally, collaborating often brings more resources; for instance, GCP was able to leverage both funding and workforce

development expertise from multiple sources through collaborating. As discussed in the next section, the structure of the collaboration can also play an important role in program outcomes.

OUTCOMES

The workforce development projects produce a variety of outcomes demonstrating both program and organizational effectiveness. The principal program outcomes—program completion and job placement—are dependent upon the collaborative participants. Another set of related, second-order outcomes, such as new relationships or projects, occur indirectly throughout the process of organizing and implementing the workforce development program. Finally, there are outcomes related to organizational capacity: the ability to mobilize resources, adapt to change, and influence system change (in this case, the state and local workforce development system). Variations in organizational structure, economic development orientation, and program design in part explain the different outcomes from the projects.

It should be noted that in their grant application materials to JIF, the organizations are generally overly optimistic about the objectives they can accomplish. Rather than evaluate them in detail on their stated goals, this assessment looks at what they achieved and how.

Program Outcomes

Table 4 shows the outcomes for the workforce development projects. With the exception of the Gateway Cities Partnership and Santa Cruz projects, the projects fall short of meeting the placement goals they had established (typically with funders). This is not surprising. In the case of the CRI projects, the programs were demonstrations, and for the SFITC, the job market for entry-level IT workers went into a dramatic tailspin shortly after the program began. Moreover, in the case of Fresno, OCBC, and SFITC, the poor numbers mask the progress that the programs have made as they have learned from previous mistakes. Finally, all of the programs, except perhaps for GCP, focused substantial resources on long-term goals such as building organizational capacity rather than placement.

Fresno Area CRI Workforce Demonstration Project

In Fresno, the first two cycles enrolled 67 students, all from the community college. This was a shift from the original plan to target one-stop participants, high school students, and incumbent workers; instead, the latter two groups are included in other components of the project (outreach and supervisor training programs).

Table 4. Workforce Development Program Outcomes

| Organization | Program outcomes | | | | | |
| | Timeframe | Enrollees | Graduates | | Placement | |
			Num	%	Num	%
Fresno	Two cycles	67	18	26.9%	18*	100.0%
GCP	Eight cycles	200	180	90.0%	144	80.0%
OCBC	Two cycles	49	30	61.2%	8	26.7%
WDBA	Two cycles	46	35	76.1%	35**	100.0%
SFITC	Many cycles	890	783	88.0%	390	49.8%

* Defined as placement into summer internships.
** Defined as enrollment into community college.

Just 18 students have landed internships (the placement goal) after two cycles of the program. However, the program has increased its placement substantially. In the first round, just seven of 35 obtained internships. Of these, two have graduated from the community college certificate program and are working full-time in water technology companies that are part of the cluster but not part of the internship program. The remaining five students will look for jobs after completing one more semester. In the second summer, 13 of 32 students obtained internships, including two who had participated in the internship program the first summer.

The problem with placement stems from a variety of factors, including the lack of basic skills, soft skills, screening, and demand. As one of those involved explained, "Our attempt to fill in the gaps has produced even bigger gaps. We're pulling the best and brightest, and they still don't have what it takes to fill these internships." Said another, "Business isn't a social effort. You have to meet certain standards." Over half the students simply didn't meet the minimum requirements of the program (i.e., didn't complete the coursework) or of the companies in terms of technical or basic skills. Soft skills for the job search were severely lacking for some: "They weren't even returning phone calls, they weren't showing up for interviews."

Another participant blamed lack of recruitment, arguing that with more volume they would get higher quality students and anticipating that with earlier student recruitment efforts in the second round, they could increase internships from 7 to at least 35. However, despite greater preparation, this increase did not materialize. A look at the demand suggests why: the EDD anticipates Fresno County net job growth for the occupations of welders, cutters, solderers, & braziers at 180 from 2001 to 2008, or 26 jobs per year, only a few of which the community college graduates in welding would be qualified for.[28] Not surprisingly, it has been difficult to recruit companies to participate

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[28] Interestingly, local water-technology companies argue that these projections are unrealistically low.

in the program. Yet CRI staff reported that companies are enthusiastic about the program because of the high quality of graduates: "Even though it sounds small, when there were seven people coming in and working, the whole industry was doing back flips."

To address the placement problem, the CRI instituted a career expo and worked with the students individually and in workshops to ensure that they knew how to apply for the internships and respond to opportunities. This seemed to improve placement in the second summer. Other successes of the program include raising awareness of careers in manufacturing through outreach to high schools and meeting the need for supervisor training through new workshops.

Gateway Cities Partnership Workforce Demonstration Project

Despite multiple changes in target population and program partners, GCP graduated most of its students. The enrollees who failed to complete the course came mostly in the later cycles of the class—some of the community members in the class turned out to have felonies or lack a GED, against program rules.

Of all the programs, GCP had by far the greatest success with placement (80%, including graduates who continued on to college rather than employment). Originally designed for disadvantaged community members, the program had to train dislocated workers, with significantly higher educational levels and wage expectations, in its first couple of cycles. This initially impacted its placement rates, as the program was designed for workers willing to earn $10 per hour with the potential for a career ladder. Ultimately, however, 70 of 90 dislocated workers were placed, along with 74 of 110 disadvantaged community members, in a variety of office support occupations, at an average wage of $11.83 per hour.

Participants attributed the success of the program to its focus on soft skills and its ability to adapt to change by adopting new approaches and partners. One credited the instructor's approach to integrating soft and technical skills training: "Four weeks is nothing to change an attitude, to change behavior. But [the instructor] knows how to work with people and bring them to the next level." After the WIB failed to place graduates, GCP and the instructor developed an aggressive approach to placement, dedicating staff time, using a temp agency, and most importantly, broadening the target to include not just the port-based logistics industry but also shippers, importers, retailers, and others: "It turned out that they could go to banks, furniture manufacturers, Target, anyone with in-house supply chain—which is almost everyone." The collaborative also took on a new partner in placement, a temporary and temp-to-perm agency.

Ultimately, since the program essentially created a new entry-level position in logistics, its success depends on the legitimacy of that approach in the view of employers. That legitimacy seems to have materialized, according to an employer:

"We would not interview folks without the GLE [certificate].
With the GLE, I know that they have had a 30-hour course overview of

the industry, and that they have made the time commitment to complete the GLE tells me that they would be good employees."

Orange County Business Council Workforce Demonstration Project

At OCBC's two classes for the computer support specialist demonstration project, 49 students, mostly from the existing NOCCC student population, enrolled in the program. Although originally the target population was to include unemployed and underemployed immigrant, non-English speaking workers and special needs women, the lack of funding for partners meant the loss of channels for recruiting a more disadvantaged population; moreover, the 10th grade level textbook precluded the participation of many English as a Second Language students.

OCBC's program outcomes reflect the lack of formal screening and placement components in the program due to funding cutbacks from the original proposal; recruitment and placement may not be the appropriate metrics in this case. Thirty of 49 students actually finished the program, and 18 students took and passed the A+ certification exam. Just eight graduates reported back about finding computer-related work, two by opening their own consulting business. Like the Fresno program, results for the second class were substantially improved: course completion increased from nine of 23 students in the first class to 21 of 26 in the second. The problems with completion stemmed largely from the lack of participant screening, while the problems with placement were twofold: the lack of soft skills and company commitment to internships.

Technically, as a community college, NOCCC can't screen applicants. However, after the first round, when many students quit the class, they began offering an orientation session, including an academic assessment (for advisory purposes only), a questionnaire to determine familiarity with computers and career goals, and more advising on what the class entailed. These changes improved the completion rate considerably. A similar effort occurred with the A+ certification exam, which many students didn't even take in the first round; in the second iteration, the NOCCC instructor offered a one-day course on taking the test.

The students were initially supposed to enter paid internships, many offered by OCBC board members such as AAA and Boeing. Said one respondent, "Everyone wanted interns, as many people as we could send them, and nothing ever happened, they never took anyone." Some firms had issues about who would pay the workers' compensation, while others were in flux because of the economy. In the one case where interns actually started work, the employer had expected full-blown computer technicians ready to work, so the program quickly fell apart. The only successful internships were actually at the NOCCC itself, in its technology division. Likewise, as the IT labor market weakened, graduates found jobs increasingly scarce—a few were hired only to be laid off immediately. Finally, placement was not considered a formal component of the program, due to the lack of non-JIF funding; thus, some students may have found work unbeknownst to NOCCC personnel.

One CRI leader maintained, "I'm confident that they will all be placed if they pass the test." But another respondent argued, "The problem is much bigger than skills and jobs. The confidence issues are huge…[OCBC] is interested in numbers, how many are certified and placed, but this is a long-term endeavor. It's not that simple." The key problem according to this respondent is that the CSS occupation is not at the beginning of the career ladder, but a couple of rungs up; thus, the biggest training need, particularly for the disadvantaged and/or ESL students, is for lower-level programs. Moreover, OCBC's focus group research on IT occupations had found the greatest industry demand much further up the IT career ladder than the CSS occupation, for highly educated workers such as computer scientists. Thus, it was perhaps not surprising that graduates of this one-semester program failed to find work.

Considering that the program itself got only $49,000 from JIF plus some community college support to pay student tuition, its accomplishments were substantial: not only improving completion rates over time and getting the majority of graduates certified, but also in building a computer lab that has been used for subsequent programs.

Watsonville Digital Bridge Academy Workforce Demonstration Project

In its first two iterations (fall 2003 and spring 2004), WDBA enrolled 46 students, 32 in the fall foundation–bridge course series, and 14 in the spring. The academy attracted its target population of at-risk students (enrolling 95%) and more than met its initial goal of 25% high-risk students (with 30% high-risk in the first semester and 60% in the second). The decrease in enrollment from fall to spring occurred because recruitment in the spring semester proved difficult, a problem that the WDBA has now learned to prevent.

Of the 46 students in the two foundation courses, 43 continued on to the bridge courses, a far higher retention rate than had been initially anticipated for this target population. Thirty-five of the 43 students completed the bridge course, an impressive result given that many were at a 9th grade level coming into this college-level course. The 35 graduates have all continued to community college, which was the main objective of the program. Not all are in college full-time; some needed remedial courses that couldn't be scheduled right away.

Bridge semester graduates gained some work experience in the following semester working in the WDBA. Students applied the techniques of project management they had learned in the bridge semester, working in teams that managed components of the WDBA such as recruiting and organizing support services.

San Francisco Information Technology Consortium

The SFITC has largely succeeded at recruiting its target population to IT training programs at the CBOs: 68% of the participants are low-income, 13% are ex-offenders,

and just 20% have any post-secondary education.[29] Most (88%) do complete the programs. Though its placement rate, at 50%, falls below expectations, it has picked up recently, due not only to the economy but also to new employer relationships. The low placement is also due in part to the requirement of the H1-B grant that it place 285 students; the SFITC has had to over-enroll in order to meet that numerical total, thus lowering its placement rate.

Placement success varies among the partners depending on their course offerings. Office technology and digital media occupations continue to experience strong demand, while networking and computer repair have tapered off. Further, the slack labor market has changed the nature of demand, with employers often demanding professional, software *and* hardware skills instead of just one type of skill set. Although in the long run this should be an advantage for the collaborative as a whole, which offers training in all types of skills, it has hurt some individual members who offer very specific skills training to students who come in with little work experience. In particular, the market has been unfavorable for computer technicians such as the Glide program graduates, and as a result, the SFITC has removed the A+ training from its career ladder.

Although placement may be an appropriate metric for stand-alone programs, it fits poorly with the SFITC's mission. The demand for cross-cutting IT skills, coupled with the new focus of the SFITC on incumbent and on-the-job training, suggests that the best measure of success may be the acquisition of new skills. As one participant argued, "We need to broaden how we think about placement—can it be 'replacement' into similar jobs?" Another possibility is focusing on wage progression, since so many SFITC graduates come from low-wage service jobs.

Likewise, it is nearly impossible to evaluate on the career ladder. Careers develop slowly, over many years—especially for those without a college degree. Although students benefit from attending different programs, their new skills may not immediately pay off in a new job.   As one participant said, "Careers were compressed during the boom, and we thought people could move up quickly. Now, we can place someone in an $11/hour job, but they're not going to be in a $15/hour job in six months."

Other Outcomes

Related to the process of organizing and implementing the workforce development program, the organizations have produced many other, second-order outcomes: new projects, relationships, and organizational capacity (Table 5). Although it is unclear the extent to which the workforce development effort contributed to these other outcomes, it clearly played a role. For instance, both OCBC and Fresno are focusing their economic development efforts on job creation and skills, using a cluster approach. Their workforce demonstration programs did not directly influence these new efforts;

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[29]   Public Policy Associates, Incorporated, *Summary of the Information Technology Consortium Collaborative*. Draft report prepared for the James Irvine Foundation, January 2004.

however, their involvement with the workforce effort helped build their credibility with stakeholders in the area.

Another way of analyzing the programs' impact is in terms of their ability to produce systemic change, influencing the way the regional workforce development system operates. As Table 5 shows, the organizations vary in their adaptiveness and their ability to mobilize resources, such as matching funds and new institutional partners. As a result, although they experienced some similar outcomes in terms of new relationships and resources, the overall impacts of the programs vary.

Table 5. Outcomes Related to Workforce Development Programs

Organization	Related outcomes	Ability to mobilize resources	Adaptiveness	System change	Overall impact
Fresno	New relationships between business, WIB, and community colleges; new funding sources; new initiatives (Regional Jobs Initiative)	High	Medium	Medium	Medium
GCP	New relationships (employers WIB, CBOs, GCP); new training programs; new awareness of global logistics occupations	High	High	Medium	Medium
OCBC	New relationships between OCBC and community colleges; new funding leveraged from community colleges and JIF; new courses at community college; new initiatives (Regional Skills Alliance)	Medium	Low	Low	Low
WDBA	New relationships with government agencies; leveraged gov't money	High	Medium	Medium	Low/Medium
SFITC	New ladder of training programs with integrated curriculum; streamlined and centralized services; marketing; new employer relationships	Medium	Medium	Low	Low/Medium

Fresno Area CRI

The Fresno project created new relationships, leveraged funding from new sources, and helped contribute to the momentum behind a new regional economic development initiative, the Regional Jobs Initiative. The workforce development project itself meant that community colleges and the WIB met members of the business community they had not worked with previously. Further, the lessons learned about the limited demand for welders in the water technology cluster have resulted in the CRI reaching out to other types of manufacturers to expand the program. Two other industries now want to form their own internship programs along the lines of the Careers in Manufacturing Technology program.

For the project itself, the CRI leveraged a contribution from the WIB. Although most of the $3 million government contribution to the water technology cluster was for its R&D component, the workforce development project undoubtedly gave the larger cluster project more legitimacy.

Finally, the RJI, a plan to create 25,000 net new jobs, grew directly out of the dialogue around regional growth, clusters, and career ladders that was started largely by the Fresno Business Council. The Jobs Initiative relies on a career ladder approach to generate jobs on an ongoing basis, an approach that stems in part from the new relationships generated by the workforce development project and the new, cross-sectoral familiarity with the idea of creating career ladders through workforce development.

Gateway Cities Partnership

The Gateway Cities Partnership Workforce Demonstration Project also spawned new relationships. Perhaps because its collaboration included more partners, the project itself has generated more new relationships than any of the others. Although logistics employers had relationships with GCP prior to the project, they developed new connections to the WIB and CBOs. Moreover, as placement expanded beyond the logistics sector, employers from a variety of sectors have become familiar with GCP. Reinforcing these relationships is the program's ongoing outreach to employers for retention purposes. Another set of new relationships developed directly due to the collaborative—as GCP sought to remedy problems with recruitment and placement, it made new connections to area CBOs and the Mott Foundation.

The project also generated new training programs, capacity, and awareness of global logistics careers. Long Beach City College has begun its own logistics program, working with the WIB; and both the Long Beach and Los Angeles Unified School Districts have begun programs. Both the Oldtimers Foundation and Watts Century Latino gained experience in job training, and Oldtimers also received a computer learning center as part of the collaboration. Due to the efforts of CSU-Long Beach's Center for International Trade and Transportation, as well as the Mott Foundation, awareness of the global logistics training ladder has spread, generating interest in other ports such as the Bay Area. GCP itself is developing a new IT training program for at-risk youth.

Finally, unlike the other CRIs, GCP gained a reputation as a workforce development intermediary through this project. Said one key informant who was not familiar with the organization prior to this foray into workforce development, "They get more done and have more positive effects than almost any organization in L.A." Although GCP is not inclined to collaborate again, it now has direct experience in running workforce development programs, a sort of capacity that the other CRIs did not develop.

Orange County Business Council

Although the OCBC collaboration was limited to just the community colleges and OCBC, the project had a powerful impact on that relationship, as one CRI leader explained:

> "Because we did this small computer support specialist project, every community college pays attention to us. Already they really want to talk to us. I don't know how much money it was. It was really a small amount, but we were able to use that money strategically, to put some money into something that enabled all these other things to happen."

The community college districts involved, as well as OCBC, have gained an understanding of what is entailed in conducting a workforce development program. This new relationship has resulted already in a new JIF-funded workforce development demonstration program in business and professional services, working with the Rancho Santiago Community College District and targeting the Latino immigrant population.

The computer support specialist program itself leveraged considerable funding from the community college system, supporting instruction and student tuition. Building on the experience of offering the two cycles of computer technician training, as well as the opportunities presented by the new computer facility, NOCCC has continued to offer A+ training with community college funds, established a computer training certificate program, and developed new Cisco networking classes. At the NOCCC district, only one other program has an internship component, so the CSS demonstration program raised the college's awareness of the need for this type of training.

Finally, OCBC's larger workforce development initiative continues to gain momentum—in particular, its collaborations with the OCWIB in the Orange County workforce report series and the Regional Skills Alliance. Although the demonstration project, which did not include the WIB after the beginning stages, did not play a direct role in generating these other projects, it gave OCBC valuable experience as it hones its role in regional workforce development.

The OCBC/OCWIB collaboration has established the infrastructure for a long-term collaborative partnership, codified in a Memorandum of Understanding between the two organizations. The partnership stems from OCBC's focus on clusters, starting with

the McKinsey report, reinforced by the Collaborative Economics work, and now reproduced on an annual basis in the Orange County workforce reports. To reinforce its focus on workforce development, OCBC in 2002 hired a vice president for workforce development who has worked extensively in the community college system and with small businesses.

Over a couple of years, OCBC educated the OCWIB about the cluster approach and built trust despite the "suspicion on their part that… we wanted to take over their programs." Over time, the OCWIB became involved in the clusters research package, and the workforce report became a truly joint effort. At this point, the OCWIB has changed its focus from exclusively providing services to jobseekers to a dual customer (jobseekers and businesses) approach. Further, it channels most of its discretionary resources toward the clusters. Most recently, working with OCBC, the OCWIB has initiated a Regional Skills Alliance program that will utilize the cluster approach to identify sectors with labor demand, organize stakeholders (including businesses, community colleges, and labor), develop the capacity for community colleges to quickly respond to the skills gap (e.g., through distance learning courses), and fund the training with help from employers.

Watsonville Digital Bridge Academy

As a multi-year demonstration project, the WDBA has not yet had any second-order outcomes. However, it seems likely to be replicated in several different venues, just as the GCP project has been. Other community colleges in Northern California are interested in recreating the program in its entirety, and the Youth Council of the Santa Cruz WIB is looking at incorporating the foundation course into training programs that they sponsor.

Unlike the cluster projects at the other CRIs, which are ongoing, the Santa Cruz Clusters Project (which has essentially dissolved) has not continued to have spin-off effects.

San Francisco Information Technology Consortium

The organizations that make up the SFITC all had training programs prior to joining the consortium. Thus, the new funding that the SFITC brought to the workforce development programs didn't create the kinds of second-order outcomes that the CRIs experienced with their new training programs. Instead, the SFITC has had the impacts of an emerging labor market intermediary: outside of its workforce development programs, it has begun to reshape both the supply and demand sides of the IT labor market.

The SFITC's supply-side outcomes include defining the ladder of training programs, improving provider services, centralizing services, and marketing the partners. The ladder is perhaps most important; by defining training niches for the different programs, it reduces overlap in curricula and encourages the transition of graduates from

one program to the next. Before, graduates of the more basic programs (office technology, computer repair) would often fail to acquire enough skills to enter the workforce—or enough confidence to enter the community college system. The ladder gives them an alternative next step and also helps more advanced programs diversify their enrollment with underprivileged but well prepared students. As one member said, "The collaborative certainly has helped us bridge the gap between where disadvantaged folks can enter the IT workforce and what skills you need to actually enter it."

Collaboration has streamlined services in several ways. Providers share knowledge about resources, such as special services for students. Through the collaboration, members become familiar with curriculum and industry standards. For instance, Arriba Juntos never pursued a MOUS certification before the other collaborative members persuaded them of the importance. Partnering with San Francisco City College has allowed partners to provide college credit for classes, which in turn encourages students to enter college.

Several functions are centralized at the SFITC, with mixed success. There is a web-based system for tracking students, replacing the mostly ad hoc systems of the partners; however, partners resist using it because it duplicates data entry. In theory, the SFITC can do joint fund-raising; however, in practice, the collaborative has yet to obtain funds for training except for the initial H1-B grant and the Governor's 15% funding.

There are also new efficiencies in placement. The collaborative experiences economies of scale by having one centralized job developer conduct outreach to employers. Partners can also share employer contacts; however, members report that the amount of leveraging is limited.

Finally, there are a set of marketing accomplishments. The SFITC has produced a campus catalog, a website, and a video, mostly targeted at training program participants. On the demand-side, the SFITC has begun to adopt the "dual customer" approach of other labor market intermediaries, seeking to serve businesses as well as jobseekers.[30] It actively seeks out employers through the Chamber of Commerce, trade associations, and its own advisory councils to find out their training needs. One potential strategy is "upgrade and backfill": train and promote incumbent workers so that entry-level slots become available for SFITC graduates.

Since San Francisco has finally linked economic and workforce development in one office under the mayor, the SFITC and the PIC are able to work with new employers to help them find workers or upgrade the skills of their current employees. The SFITC has also begun working with temporary agencies to develop new connections to their large employer clients with special training needs, like Genentech. Finally, the SFITC is helping to organize different collaboratives with broad groups of stakeholders. For instance, it is working with City College, Laguna Hospital, SEIU Local 250 and the

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[30]   Giloth, Robert P, editor. *Workforce Intermediaries in the Twenty-First Century.* Philadelphia: Temple University Press.

Shirley Weir Education Center to design a training program for the non-trained nursing staff. The SFITC is coming of age, as one participant said:

> "I guess I saw it coming. We go to these conferences and we see that it takes up to five years to get a fully functioning intermediary. We're heading into our second year in terms of actual staff, not in terms of activities. This past year I've really seen the result of our efforts. I think we're on track for the five-year thing."

The question remains whether there are advantages to belonging to the collaborative for its most effective members like BAVC. But on its own, BAVC's MediaLink program cannot produce the variety of outcomes that the SFITC has. It is unable to affect the supply and demand sides of the labor market in the way that the SFITC can. Instead, its nonprogrammatic outcomes are largely internalized—for instance, BAVC has gained access to state-of-the-art software and hardware donated to MediaLink and it has hired staff from its pool of graduates.

One potential disadvantage from collaborating is the loss of funding. BAVC and the other more effective training partners might well have been able to obtain the H1-B or state funding on their own. Another potential problem is in employer demand. Since the partners offer complementary training programs, BAVC doesn't see reduced placements from collaborating. However, in sharing its employer contacts, it has risked losing the goodwill of its business partners.

Yet BAVC is optimistic about the future of the collaborative. Asked what the value-added is for BAVC, one respondent said, "It seems like we haven't gotten it yet, but I keep thinking we will…It certainly helps us touch other constituencies. And it helps us understand the field better and our role in it."

Conclusion: The Role of Institutional Structure in Outcomes

The success of the programs varied in part because of fundamental differences in program funding and length, but also because of institutional and organizational differences. The CRIs are particularly effective at mobilizing resources and changing how the workforce development system works. However, they don't perform as well at running workforce development programs or adapting to change.

For the one project with highly successful program outcomes, GCP, the key factors were funding, collaboration with experienced partners, and the leadership to adapt when the program was failing. For projects with a variety of second-order, potentially long-term outcomes, particularly Fresno and the GCP, the critical elements are broad participation in the collaborative and economic development orientation. In general, programs with diverse players have a much broader impact, and a focused economic development orientation also helps create stakeholder buy-in that continues into other projects. A couple of projects (OCBC and the SFITC) have had other positive outcomes

that are not directly related to the workforce development program but have potential long-term impacts on the workforce development system.

Fresno Area CRI

Fresno's program failed to recruit or place many participants. This was due mostly to the nature of its collaboration. It had no partners to serve as channels for recruitment, and its members had no experience with job placement. However, the CRI has shown tremendous adaptiveness as it has added job search and soft skills training to the program. Moreover, it clearly has the ability to mobilize resources—for instance, it has developed its relationship with the WIB to the point where the WIB will fund one-third of the program in subsequent years.

The training program in welding is not really new, but because of the CRI, the community colleges gained new connections to a broad cluster of industries in water technology. The community colleges have a history of working with employers to develop training programs, but each training program meets the needs of just one employer (e.g., GM). Collaborating with a cluster brings the potential for much broader system impacts. Various participants agreed that the CRI's organization, particularly its emphasis on collaboration, was the key to creating these impacts.

The CRI's orientation towards regional economic competitiveness and early use of data as a conversation starter play an important role in these second-order outcomes. Its decision to focus on producing a small number of highly qualified program graduates improves industry competitiveness and also helps to build employer buy-in. Although the workforce development program does not improve access to employment opportunity for many Fresno residents, the next phase of the CRI's economic program, the Regional Jobs Initiative, may begin to address the region's chronic poverty.

Gateway Cities Partnership

GCP's successful program outcomes were due largely to its organizational structure. The availability of funding, of course, played a role by giving the program the resources to select skilled partners; funding also made it possible to run eight cycles, giving GCP an opportunity to improve the program design and place more graduates. However, the key was the project management. The centralized structure of the CRI, which relies heavily on CEO Hollingsworth, as well as its origins in business and connections to the logistics industry, helped placement. But even more importantly, the CRI took on direct responsibility for outcomes. As the initial collaborative had little success in placement, Hollingsworth sought out new partners for the project who refined its approach to recruitment, job search and soft skills training. Yet because the collaborative in its various forms involved so many different partners, outcomes were broad—different collaborative members have gone on to create offshoots of the original logistics training program.

The changing form of the collaborative, as well as the ability to adapt the program for different target populations, suggests organizational adaptiveness; this adaptiveness seems to be related to the centralized structure of the CRI, which allows it to make changes quickly. The centralized structure also accounts for its strong economic development orientation. Despite the change in focus from disadvantaged to dislocated workers in the initial cycles, GCP was determined to return the program to its original target population, reflecting its main economic development goal of improving opportunity for community members.

The disintegration of the workforce development collaborative has meant that it is unlikely to reconvene in the same form. Members suggested that in future efforts, partners should be involved earlier in program design, the CRI should develop an MOU with the WIB, and the CRI should gather some evidence about partners' actual capability to perform their tasks prior to committing to a project with them.

Hollingsworth sees some system impacts from the program: "Have we changed the culture of workforce development in this area? No. Have we developed different ways of doing it? Yes. Have we caused other people in the community to say, 'Oh, we could do this differently?' Yes, I think we have." The new awareness of the program's potential across the fragmented Gateway Cities region is already shaping attitudes toward workforce development in the local WIBs, CBOs, and governments. However, replication of the project is limited due to its narrow focus. There is no ongoing cluster analysis in the region, and few local industries have the broad connections to education and government that the logistics sector has.

Orange County Business Council

Apart from its impacts on the NOCCC's computer curriculum and facilities, the CSS program had few direct outcomes. The lack of funding—and the resultant lack of collaboration—was directly responsible for the low placement rates, as the community college had no assistance in screening, recruitment, and placement. Given these conditions, the community college showed considerable adaptiveness in improving its recruitment and soft skills training over the two classes. Thus, the program had the effect of improving community college capacity without meeting economic development goals.

But other factors played a role as well in the disappointing program outcomes. Despite OCBC's origins in and connections to business, individual businesses failed to develop internships with CSS graduates. One participant blamed OCBC's use of labor market information. First, the career ladder analysis suggested that the CSS occupation was an accessible bottom rung of the ladder, but the community college students were ill-prepared to enter the occupation. Second, the focus groups held to organize the program indicated that the immediate demand was for high-skilled IT employees, which would take years to develop, rather than a short-term training program. Third, the research on CSS demand was quickly out of date; although EDD projections may materialize by late in the decade, they do not reflect demand during slow growth years.

Though it may not be optimal to organize workforce development programs through OCBC, its larger workforce development program, of which the CSS program was a small component, has probably had more impacts on the regional workforce development system than any of the organizations in this study. Due in part to its connections to the county political establishment, OCBC has influenced its WIB in a way that none of the others have. The OCWIB has largely adopted OCBC's orientation toward economic competitiveness and its cluster strategy, and over time, has become a full partner in regional economic analysis and an initiator in new projects like the Regional Skills Alliance. As one outside informant said, "The business council represents the best entity that is able to bring together different industry segments and provide a forum to articulate what those industry segments need in terms of workforce education."

Watsonville Digital Bridge Academy

Although it is still early to assess the WDBA's success at bridging disadvantaged youth into knowledge-based careers, the program has clearly helped move at-risk students into college. Though there is no way of knowing what might have happened without the program, the high completion rates suggest that something is working well. In terms of placement, it remains to be seen whether the project's business origins eventually help graduates enter the workforce.

Credit is probably due to the centralized project management for "lighting the fire" under students that gets them to enter college. With just a few key players heavily involved in the program, students can sense how invested their instructors are in their success. But like GCP, WDBA's success is due in large part to its ability to mobilize resources. The availability of funding played a role by giving the program the resources to refine the course design and program structure in several pilots. Another key resource came from the outreach to agency partners to attract at-risk students; unlike most of the other programs studied, the WDBA has not had to adjust its target population.

San Francisco Information Technology Consortium

The SFITC has experienced mixed program outcomes but is gradually building an array of second-order outcomes. Because of its broad reach, with seven partners, it has succeeded in recruiting a large and diverse pool of trainees. However, because individual programs differ in their strength of connection to industry and labor demand, placement outcomes vary widely and overall just half of the graduates find jobs. Joint ownership of the project has helped it successfully create a ladder of complementary training programs, with an integrated, non-overlapping curriculum. Good communication among the members has helped the SFITC adapt to changes, leading to the revision of some curricula and the career ladder of programs.

To date, the SFITC has focused on the supply side, but as resources (funding, in particular, but also the increasingly active participation of San Francisco's government)

have materialized, it has begun to work as a labor market intermediary with both workforce and economic development goals. Funding for full-time staff has allowed it to develop new employer relationships and a presence in San Francisco's business sector. The SFITC has also educated government, creating the potential for long-term system change. As one participant said,

> "This is new for the PIC because they're familiar with nonprofits; they work heavily with the nonprofit sector, mostly as a contract administrator. What we do is different for them. We add value, we show them how to conduct outreach to employers, how to look at labor market needs for the next six months, how to think about job development and training. It's less about what resources they provide to us. It's more that we provide resources to them."

CONCLUSION: POLICY IMPLICATIONS AND SUSTAINABILITY

Regional collaboration can make workforce development programs more effective if the right partners are involved—from both inside and outside the current system. At their best, the CRIs produce more effective program and system outcomes than the other collaboratives studied. But as relative newcomers in the complex landscape of the workforce development system, they may be more effective as catalysts for long-term system change than as implementers of workforce development programs. Unless CRIs are able to organize broad and flexible workforce development networks so they can tap into existing expertise and resources as needed, these collaborations function essentially only on paper and thus do not make CRIs more effective than other institutions.

Gateway Cities Partnership, as the most effective demonstration project overall, illustrates how the CRI approach to workforce development can create successful program outcomes. Although it is perhaps still too early to evaluate its success, the Watsonville Digital Bridge Academy is effective for similar reasons.

In terms of organizational structure, a more centralized approach seems to work better because it helps clarify responsibility for outcomes. Most critical are the elements of program design. Collaborative members must agree on a target population and provide appropriate soft skills training and placement assistance for that group; a strong economic development orientation in the organization helps target assistance effectively. Workforce development programs must be funded fully enough to run a true experiment; the $600,000 that GCP spent is likely an appropriate amount if the program is to have enough iterations to eliminate major flaws. Although the breadth and style of the collaboration may not matter, it is critical that experts from both business and community-based organizations (CBOs) familiar with disadvantaged jobseekers be involved. Despite narrow participation and/or centralized management, GCP, WDBA, and SFITC were all able to learn and adapt their programs relatively well, in part,

because they maintained a network of collaborators to draw upon for input throughout the project.

In their workforce development programs, the other collaboratives lacked some of these critical ingredients and were thus less successful. However, their larger workforce development approach, of which the workforce demonstration program was one part, may prove to have long-term system impacts. In Fresno, GCP, and OCBC, the involvement of diverse stakeholders from across the business, government, and education sectors has facilitated the replication of workforce development programs for different industries. All of the CRIs are engaging with business in ongoing conversations that are helping to generate new employer interest in—and ownership of—workforce development. Although the non-CRI collaboratives have not succeeded similarly in engaging business and thus replicating themselves, they also are having system impacts, altering the way the San Francisco government and the community college system govern economic and workforce development.

The CRIs adhered to a theory of change that workforce development systems need to be collaborative in scope, regional in scale, career-oriented in focus, and data-intensive in strategy. But collaboration alone is not enough, without ownership. Whether the collaboration is broad and cross-sectoral (as in Fresno) or narrow (as in the SFITC), whether the organization functions as a collaborative or an intermediary, members need to have clear roles and responsibilities, with high levels of expertise. Collaboratives with a clear division of labor are better able to adapt when obstacles emerge (as in GCP and SFITC cases). Including experts is critical to avoid reinventing the wheel, as happened with a couple of the collaboratives that had no members with job placement experience in a workforce development context. To incorporate such expert members into the collaboration, collaboratives may need to look throughout a broader region—for instance, several CRIs have no effective local CBOs with whom to partner.

Some factors did not matter as much as anticipated. It seems to matter little who conducts day-to-day management of the workforce development program, as long as accountability is clear. The collaborative style, particularly the nature of the dialogue, is not important, as some of the collaboratives with the most extensive and carefully facilitated meetings about workforce development had the least effective results—probably because key business and CBO players were not at the table and ownership of the initiative was unclear. In contrast, key to the effectiveness of initiatives, such as GCP and Fresno, was not open dialogue but the intermediary role, negotiating with individual partners.

A regional approach is also important, but not critical. Although economies work regionally, the labor market intermediaries that help disadvantaged jobseekers transition into the workforce may be located in a network across a region or at one organization. A broader collaboration will be able to draw on more diverse participation and will have more impacts throughout a region, as in GCP, which has spawned imitation programs in both Long Beach and the Los Angeles Unified School District. On the other hand, the

case of the WDBA offers an example of how participation can be relatively narrow, yet still have substantial effects within a system because members have figured out how to make changes by leveraging existing funding streams. The appropriate scale—city, sub-county, county, or multi-county—will depend on the unique configuration of workforce development resources within each area.

Developing career ladders is critical for upward mobility in a time when low-wage dead-end jobs dominate the landscape of low-skill work. Clearly, because of all of the support systems and sectors that are involved in making upward mobility possible, the concept has helped to "break down the silos." Nonetheless, these projects have revealed some contradictions that should be addressed. First, as the OCBC case showed, the career ladder for disadvantaged workers doesn't necessarily begin where research is pointing it. Second, as the experience of the SFITC showed, ascending a rung or two in the career ladder is a process that takes years, especially for workers who have family obligations or no college degree. If a career ladder into a high-skilled job paying a family wage will take a decade to accomplish, this by definition is not an economic development strategy that responds to regional labor demand, but a supply-side policy.

Cross-sectoral (i.e., including business, government, education, and CBOs) participation is important, particularly if the partners are truly committed to the program—enough to help with internships. One key element in mobilizing such participation is the use of information, as in the OCBC and Fresno cases. The cross-sectoral discussion about clusters, framed within a clear economic development orientation, resulted in the buy-in of stakeholders (e.g., the commitment of Fresno businesses to manufacturing technology training programs); career ladders perform a similar function. In the OCBC case, and increasingly in Fresno as well, this approach has helped to change the culture of the regional workforce development system and spur a regional dialogue about economic development. On the other hand, the use of information (i.e., the dialogue about clusters) was not important at all to the GCP case; instead, personal networks made the difference.

Thus, the collaborative, regional, data-intensive, career-oriented approach is fostering some useful experiments. But the question remains whether these collaboratives are effective at solving the complex problem of linking economic and workforce development. Some, such as GCP and SFITC, have already succeeded at the goal of helping economically or educationally disadvantaged people access employment opportunities, probably helping some businesses become more competitive as a result. The Fresno project arguably has helped businesses become more competitive and expand, but without necessarily helping the disadvantaged. None have fully succeeded at both goals.

It is clearly not impossible to link the two, as the success of sector initiatives and other labor market intermediaries has shown.[31] But the CRIs failed to address some of

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[31]   Zandniapour & Conway (2002, op.cit.); Giloth (2004, op.cit.).

the key contradictions in linking economic and workforce development. First, and perhaps most importantly, the economic downturn meant that the programs were producing jobseekers in low-demand occupations at a time of high unemployment, and they were unable to adjust their curricula quickly. The CRIs may be business-driven, but their management style, including lack of familiarity with best practices in workforce development and disinclination to involve employers closely with the programs, resulted in a model that was not truly responsive to business needs. With the exception of GCP, which has a CEO with close ties to business and a hands-on management style, the CRIs were unable to translate their business connections into demand-responsive workforce development. This raises the question of whether a regional collaborative can replicate the well-documented successes of business-responsive nonprofits such as Project QUEST in San Antonio, the Center for Employment Training in San Jose, and the Bay Area Video Coalition in San Francisco (part of the SFITC).[32]

Second, these cases raise questions about whether a focus on clusters, which is clearly valuable for economic development, can also work for workforce development. For instance, OCBC's training program was part of an economic development strategy to enhance the competitiveness of local businesses within several growing industry clusters by producing high-skilled IT workers. The contradiction was that businesses saw it as meeting their short-term need for employees, while the career ladders approach is a long-term solution. When the program tried to meet its short-term goal of placing low-skilled IT workers to begin career ladders, businesses quickly backed away from their hiring commitments. Another problem occurred in Fresno in its work with the water technology manufacturing cluster. Though Fresno may be developing a competitive advantage in water technology, that cluster is producing very few jobs, so there is no opportunity to scale up the workforce development program.

In contrast, because GCP focused more on a specific sector (logistics), they were able to educate employers and obtain buy-in for long-term goals, just as sector initiatives do. At the same time, GCP was able to place most of its graduates because it taught skills that could be used in a variety of different industries. The experience of the SFITC has been similar. Although the members of the collaborative originally targeted the IT sector for jobs, the downturn resulted in a new focus on non-IT sector employers who hire IT workers (e.g., hospitals). The lesson is that workforce development initiatives probably

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[32] For a description of Project QUEST, see Lautsch, B. A. & Osterman, P., "Changing the Constraints: A Successful Employment and Training Strategy" in Giloth, R., ed., *Jobs and Economic Development: Strategies and Practice* (Thousand Oaks, CA: Sage Publications, 1998). For the Center for Employment Training, see Melendez, E. & Harrison, B., "Matching the Disadvantaged to Job Opportunities: Structural Explanations for the Past Successes of the Center for Employment Training" [*Economic Development Quarterly* 12(1):3–11 (Feb. 1998)]. For a study of the Bay Area Video Coalition, see Chapple, K., Zook, M., Kunamneni, R., Saxenian, A., Weber, S., & Crawford, B., *From Promising Practices to Promising Futures: Job Training in Information Technology for Disadvantaged Adults* (New York: Ford Foundation, 2000).

need to take a sector approach to engage employers but also target occupations which cut across many different industries.[33]

A final unresolved contradiction is the scale at which economic and workforce development goals are realized. Successful economic development strategies are regional in scale because the economy works across jurisdictional boundaries. The CRIs' biggest successes were regional, but were mostly related to economic development, such as creating a new regional dialogue about clusters in Orange County and Fresno County and leveraging new resources and relationships across sectors. In contrast, successful placement of disadvantaged training program graduates works primarily at a local scale through local relationships. The CRIs may be able to play an important role in changing the regional workforce development system, but it is unclear how their strength in regional collaboration contributes to more effective workforce development programs.

Most of the respondents who are involved in the long-term project to reform workforce development argue that the solution will emerge over time, with more experimentation. Whether looking at the ability of CRIs to refocus workforce development or the ability of individuals to take advantage of a clear career ladder to advance, the impact will take time to understand and affect the system. One CRI leader said, pessimistically, "The beast may be called a PIC or a WIB, but it's still the beast." Even a WIB respondent acknowledged, "It's good to have outside people pushing us as the CRIs do. But institutionalizing the thinking will take us time."

For now, what is clear is that the seed has been planted. These projects provide many examples of how "the walls come down on funding streams and institutions," as one expert put it. Much of the collaboration is occurring across sectors and through cobbling together multiple sources of funding. Innovation has created a climate for change: "Success creates pressure. The existing institutions will come to the table because they're opportunistic." In the end, it will be up to the state to ensure that reform is institutionalized and innovation continues.

The following looks at the lessons from these experiments in institution-building, laying out policy implications for workforce development programs, economic development strategies, and the larger workforce development system. A concluding section looks at the issue of sustainability.

Policy Implications

Lessons from the Programs

The experience—particularly of the CRI demonstration projects—suggests some important implications for partnering and funding. First, the inexperience of the Fresno

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[33] For a discussion of why targeting occupations is important, see Markusen, A. "Targeting Occupations in Regional and Community Economic Development" [*Journal of the American Planning Association* 70(3), Summer 2004].

and OCBC partners in soft skills training and job placement created a steep learning curve. In addition to lacking business commitment to hiring qualified graduates, OCBC's community college partner also lacked dedicated staff for placement. In contrast, GCP found a partner with many years of experience designing curricula and soft skills for disadvantaged students. Most community colleges are ill-prepared to take on soft skills training and placement, and there is no need to reinvent the wheel by having CRI staff learn those skills, as in Fresno. Instead, the CRIs should seek out CBO partners with a proven track record. For instance, the nonprofit A+ program for disadvantaged youth in Santa Ana that was originally part of the OCBC proposal has experienced job developers and is eager to collaborate.

Such CBOs could also help with recruiting a broader and more diverse group of students. Community colleges expressed concern about the lack of qualified candidates within their own student population; it may be that CBOs can provide access to more talented and ambitious students. In any case, it is important to create a pipeline into these programs for disadvantaged community members. A larger pool of candidates and graduates creates more choice for employers and helps the disadvantaged start on a career path, even if not immediately.

WDBA has addressed this problem by recruiting directly from government agencies for troubled youth. One factor that has made this possible is the small size of the Santa Cruz region and the resultant networks among agencies, city officials, and CBOs. For collaboratives that are working in larger regions, the lesson is that for specific projects it may be necessary to shrink the region to the right group of committed stakeholders.

Finally, demonstration projects will have little or no impact if underfunded. It costs money to collaborate and takes time to experiment. GCP is a case in point: when first interviewed in summer 2003, after the first two cycles of the program, collaborative members were in despair, having placed just one-third of the class. But by the eighth cycle, they clearly had figured out what works well enough to place 80% overall. It took GCP $600,000 to grow the program into a full-blown model; staff suggest that it would have taken five years to institutionalize it fully in Los Angeles.

Lessons for Economic Development Strategy

These cases suggest that policymakers need to think more carefully about economic development approaches, questioning the assumption that workforce development needs to be regional and based upon clusters and career ladders.

The regional approach clearly makes sense where there are support institutions, but where there aren't, it can create an uphill battle. As one respondent argued,

"Where there's no prior collaboration, the region doesn't make sense. When it's already working, it makes sense to people. But when it's

something the funder encourages to get the funding, I don't think it creates regionalism."

In the case of workforce development, regional collaboration is easiest where there is just one county WIB to work with. As the case of GCP illustrates, the competition between WIBs can make collaboration very complicated. Where the structure is fragmented, as in L.A., it will be necessary to incentivize collaboration, particularly among the WIBs.

Linking economic and workforce development will continue to be an uphill battle unless the collaborative can connect with agencies that are incentivized to link the two, as is beginning to happen in San Francisco. County governments generally don't do economic development, but cities and economic development corporations do, so it may be important to work more closely with them.

Clusters are the key to regional economic competitiveness, yet there are little-understood constraints to applying a cluster approach to workforce development. First, as the Fresno case demonstrated, clusters may experience very little labor demand, particularly as industries are just emerging. Second, as the Fresno case also showed, a cluster of diverse companies does not have the same technical training needs because software, equipment, and skill shortages differ. This has meant that the only role for Fresno in upgrading incumbent workers' skills is providing soft skills training.

A sectoral approach, intervening in just one industry, can help address this problem. However, as GCP's logistics case illustrated, targeting just one sector can limit employment opportunities. Organizing training for an occupation that cuts across industries presents different problems because it is difficult to organize employers around occupations. The solution that GCP identified was to look across industries for common skill sets; as it turned out, familiarity with the supply chain is valuable for a variety of occupations—not just in port-related businesses, but also at retailers and wholesalers. WDBA has already adopted this skill-based approach, and it is also embodied in the new Regional Skills Alliances in Orange County.

The experience of the SFITC, and indeed of CBOs historically, has shown that the most successful training is employer-based. Within a specific cluster or sector, training providers need to customize training, either based on the needs of one large employer or groups of smaller firms. As one expert argued,

> "It's a mistake to have a standard model. You need to craft individual programs based on employer needs…It needs to be industry-driven, not about skill standards. It can't just be pushing toward a certification….This is clearly the future. Amgen alone hires 600 a year in manufacturing. I doubt the L.A. WIB has placed that many in two years."

To make it work, according to this respondent, collaboratives need to think about putting together a customized model of entry-level and upgrade training. This is essentially the

"upgrade and backfill" idea, which BAVC is already piloting successfully to create more entry-level positions.

Finally, developing career ladder models not only builds new cooperation between education and workforce development efforts but also helps show less-educated workers what is possible. As one expert said, "For the guy earning $7 or $8 per hour, making $8.50 in the next job is fine. He isn't thinking about how to get to $30, as opposed to the guy just out of school who immediately thinks in terms of what he needs to do to get to $30." Nonetheless, these projects have revealed some issues that require further work.

First, as the difficulty in placement at the Orange County computer support specialist project showed, the path to a CSS job is more complicated than one short training program. There may well be a need to add remedial education and work experience components, too, as one respondent pointed out:

> "The A+ class is not the beginning of the career ladder, as was presented in the Business Council's research. You have to start way, way back. People have difficulties with general reading and math. We have those resources in place through adult basic skills labs, literacy labs, but we have much harder work to do to prepare this type of student to take an A+ class. Something we've found is that if people had never had exposure to working with computer hardware, they were naïve about what was entailed in the career."

The WDBA model addresses this problem by expanding the IT career ladder and could be a useful add-on to future CSS training programs.

Second, as the experience of the SFITC showed, ascending a rung or two in the career ladder is a process that takes years, especially for workers who have family obligations or no college degree. But economic development cannot wait; businesses will import skilled workers to become more competitive. Meanwhile, workers enter a career ladder building towards occupations for which there may be no market by the time they are prepared for them. Thus, unless collaboratives adopt a "dual customer" approach, working closely with employers to change employment structures, the career ladders approach is simply a supply-side policy. Another problem is attending a series of training programs in the ladder, as some SFITC graduates found. If they go from A+ to Cisco to Unix, their A+ skills are obsolete at the end, because they've been out of the labor market for almost two years. These problems again suggest that organizing programs around fundamental skills, such as teamwork and project management, may be most useful in the long run for those trying to advance out of poverty. Finally, the length of time it takes to build a career ladder suggests that funders will need to commit for much longer periods—as long as ten years—in order to find out if the approach works.

Most of the collaboratives have not come to terms with the essential contradiction of the workforce development problem: the goals of regional economic competitiveness

and access to employment opportunity for the disadvantaged are not necessarily compatible. As they continue to refine their workforce development programs, it will be important to clarify which goal is most important in order to adopt the most appropriate strategy. If the workforce development goal really is to address chronic poverty, CRIs might best follow advice from GCP's Hollingsworth:

> "If you are going to train the people who are really out of the economic mainstream, you are going to have to work harder than you expected, you are going to have to work locally (i.e., down in the trenches) and you are going to have to work patiently."

Lessons for the Workforce Development System

The lessons for the workforce development system are twofold: rethink the relationship between the collaboratives, the WIBs, and the community colleges in order to maximize the impact of workforce development innovations on the system; and make the system responsive to outside innovation, such as that produced by the CRIs.

The most important reason for collaboratives to work within the system is for sustainability, to tap into existing funding streams. As one expert said, "Right now, the CRIs are operating outside of the institutional structure, so they're not leveraging resources. You need to leverage the stuff that's already there." Another said, "Don't fund projects, fund leveraging."

Many CRI respondents argued that the WIBs in particular had no useful role to play in their projects. They don't do placement well, particularly for specific sectors; they have a poor reputation among employers; and they are constrained by having to meet narrowly-defined performance targets. However, others argued that the WIB can provide long-term and stable access to all businesses in the community, while the CRI may only connect to a few. As one respondent who sits on both a WIB and a CRI board said, "On the WIB there is broader participation—we have had meetings to figure out what business is about in [the region]. It is a different group dynamic, more of a facilitation model than the [CRI]. There is more willingness to put cards on the table."

Community colleges in particular have had difficulty working with WIBs, since most are not participating in WIA due to problems with red tape. However, as a few respondents argued, the partnership could be strategic and help leverage other community college resources: "The community colleges can do customized training, leverage some different monies, and the WIA participants get college credit. It costs $50,000 per class to the community college, but WIA pays more ($100,000 for 20 participants), so it makes sense."

Almost all of the respondents agree that organizations like CRIs play an important role both in innovating economic development strategy and convening businesses. As one expert explained, "If you don't start the conversation, nothing will happen." A WIB official elaborated the point, saying that the CRI provides valuable resources about

regional economies, in a state where there are no incentives for WIBs to do strategic planning for regional workforce development. A community college respondent added that the CRIs, like OCBC, can present a clearer business perspective than the WIBs, which include CBOs and public entities. OCBC is also more effective than community college advisory boards:

> "For many of our businesses there isn't that single entity that pulls them together and allows them articulate to us what it is that they need. We get a little bit of what they need through our advisory committees, but we're getting micro perspective on what an individual company needs. And there's nothing to guarantee that that applies to the rest of the industry. On an ongoing basis, the Business Council represents that forum that is critically needed."

Finally, the CRIs can help business believe in the workforce development system. As one outside expert pointed out about Fresno, "The CRI shielded the business people from the WIB and all the workforce mechanics because CRIs are conveners. This established a credibility in workforce development for people." Another added, "Business tells us that they want someone embedded in their world, not from government, so we have to have industry-focused collaboratives."

The few critics either argued wistfully that the WIB should be performing the innovative and convening function that the CRIs have taken on, or maintained that the CRIs should not engage in service delivery, just policy. Said one critic from a WIB, "On the one hand, we say that we want to make systems more efficient. But then these subsystems arise that run off to get their own money, and it's a function of creativity and political savvy, not efficiency." The state funds workforce development programs at CRIs "to the detriment of building the system. You don't build systems by running away from the problems."

Both state officials and local stakeholders agree that change needs to come from the bottom-up. Said one state official, "We need to go from a mechanic to an organic model of change. The economic organizations understand. The bureaucracies involved in entitlement deals don't. And we need to shift problem-solving back to lowest common denominator, the region." Said another, "The CRI is the model of the future because it can respond to uneven development across the state."

Postscript: Sustainabililty

> "If Richard Hollingsworth were hit by a bus, the CRI would disappear…If it's not attached to an institution, it'll always just be the people who happen to show up."
>
> *—Workforce development expert*

All of these collaboratives strive for sustainability in some form, whether it is simply continuing the program or finding a way to institutionalize or replicate the program within the region or state. As their initial funding disappears, the collaboratives' activities indicate whether they were indeed just collaborating for the sake of the grant, or whether they are interested in broader impacts.

Just two programs have found funding to keep the program going. In Fresno, the CRI has cobbled together funding from the WIB and Fresno State and is exploring other sources. Because the region's stakeholders continue to work on the clusters and there is interest in expanding the program to other industries, it is likely to continue in some form.

WDBA also continues to draw from existing grant funding and anticipates little problem in attracting more funding, either from foundations or from the community college. The project has no interest in government workforce development funding. As the director explained, "WIA money comes with strings that are draconian." The project was designed explicitly to be both sustainable with existing community college funding streams for remedial training and replicable throughout the community college system. To ensure sustainability, Cabrillo College has created a new faculty position for a tenure-track faculty member to have responsibility for WDBA.

The global logistics training program will no longer reside at GCP. The partners were unable to find long-term funding commitments for subsequent rounds, despite considerable interest. However, offshoots of the program are continuing under the auspices of former partners, and employers are reportedly eager to have it continue.

For the SFITC, funding also seems to have disappeared for both the workforce development program and the intermediary activity. Foundations are moving out of workforce development and are not interested in funding operations (i.e., the SFITC staff). The H-1B program is currently only funding business-led proposals to retrain college-educated workers. The PIC is an unlikely source for support because it distributes most of its WIA dollars to CBOs via long-term contracts, a system that can't support a collaborative of several organizations. Ironically, individual CBOs continue to attract funding from foundations and government. BAVC, for instance, has maintained its funding levels by combining foundation funding and employment training panel (ETP) funds from the state for incumbent workers. Also, about 30% of its training is now fee-for-service. To the extent that the SFITC is able to obtain new funding, it comes from its new partnerships with employers—for instance, for on-the-job training. In its case, sustainability may come from more cross-sectoral collaboration.

Some also question whether the SFITC model is replicable. The partners do agree that they want to have an impact, spawning similar labor market intermediaries across the country—as one said, "We're banking on the fact that it's replicable." However, pressed on where it might be replicable, collaborative members questioned whether the necessary ingredients—a strong CBO presence, community college and CBO relationships, and a culture of collaboration—exist in places like New York and Boston.

OCBC also sees its projects as sustainable: "It's been institutionalized in North Orange County." Clearly, the community college system has bought into the idea that it should provide computer technician training. However, it is not clear that the colleges will be able pursue workforce development linked closely to the needs of either business or disadvantaged, non-English-speaking community members.

The example of GCP, where there is need and demand for the training program but no assurance that it will continue in its current form, suggests that positive labor market conditions are not enough to sustain programs if the workforce development system cannot reward good programs properly. Under WIA reforms, innovations are not sustainable. WIBs still lack the flexibility to provide ongoing funding to effective programs. Thus, one challenge for the state will be to find ways to continue to incentivize regional innovation as foundations decrease their funding commitment to workforce development.

It is too early to determine what will ensure the long-term sustainability of the workforce development initiatives. But based upon these cases, it seems to depend in part on the nature of the collaboration. Particularly critical is the diversity of involvement, as the SFITC need to reach out to employers illustrates. A broad sense of project ownership, as in the Fresno case, also matters. Finally, government commitment through the WIB is important, as the OCBC collaboration with the OCWIB testifies. As one CRI leader said, "We are creating models for replication, but we need the WIB to bring them to scale." In the cases of Fresno, OCBC, and the SFITC, a form of sustainability has occurred through various second-order outcomes and system impacts that came about because of interaction between the collaboration and the WIB. Because of the uniqueness of regional economies and collaborative members, these projects may actually not be replicable. To the extent that they are, it is through developing strong partners in existing institutions who can rely on existing funding streams, as in the case of WDBA.

These CRI demonstration projects tested the idea that successful workforce development programs need to be regional, collaborative, career-oriented, and data-intensive. Underlying the projects is the suggestion that business involvement—"CEO-level problem-solving"—can help collaboratives tackle the problem more effectively. The history of workforce development shows us the importance of linking to employer needs, and some of these projects clearly did so by producing better information about employer needs and engaging business stakeholders. Thus, not surprisingly, these projects yielded positive impacts for some of the businesses and individuals who participated.

Yet the best business minds may still not be able to solve the complex problem of simultaneous economic and workforce development. The failures of the projects reveal the importance of certain factors, such as participation, commitment, and leadership from a diverse group of experts, not just business. Whether we can ultimately improve

regional economic competitiveness and/or alleviate chronic poverty through such programs is still up for debate.

APPENDIX I

Glossary of Terms and Acronyms

3E (Three Es): economy, equity, and environment

BAVC: Bay Area Video Coalition, member of the San Francisco Information Technology Consortium

CBO: Community-based organization

CCRL: California Center for Regional Leadership

CITT: Center for International Trade & Transportation, California State University, Long Beach

CRI: Collaborative Regional Initiative

CSS: Computer support specialist occupation

CSU: California State University

DHS: Department of Human Services, San Francisco

EDD: Employment Development Department

GCP: Gateway Cities Partnership

GLE: Global logistics entry-level training program and certification

GLS: Global logistics specialist training program and certification

Governor's 15% funds: The discretionary 15% of the Workforce Investment Act budget that the California governor grants to organizations on a competitive basis for disadvantaged workers

Governor's 25% funds: The discretionary 25% of the Workforce Investment Act budget that the California governor grants to organizations on a competitive basis for dislocated workers

H-1B: U.S. Department of Labor training program funds, awarded on a competitive basis and funded from a $500 surcharge (paid by employers) on H-1B visas for high-skilled workers

JVS: Jewish Vocational Service

NOCCC: North Orange County Community College District

OCBC: Orange County Business Council

OCWIB: Orange County Workforce Investment Board

RFP: Request for proposals

RJI: Regional Jobs Initiative (Fresno)

SFITC/ITC: San Francisco Information Technology Consortium

SFPIC: San Francisco Private Industry Council, the nonprofit agency that administers employment, training and research services to San Francisco employers and job seekers at the direction of the Workforce Investment San Francisco Board.

WDBA: Watsonville Digital Bridge Academy

WIA: Workforce Investment Act of 1998, federal workforce development legislation that replaced the Job Training Partnership Act (JTPA) with block grants to states and created a new comprehensive workforce development system, encompassing both job training and employment services for three groups: adults, dislocated workers, and youth.

WIB: Workforce Investment Board, the boards created under WIA to guide workforce development policy for the state and its regions (service delivery areas). By legislation, 50% + 1 members of the board come from business, and the remainder are mandated partners from government agencies and community-based organizations.

APPENDIX II

Methodology

This study involved 40 in-depth interviews with collaborative members and key informants. Each of the six cases included 2–5 interviews with collaborative or project members and 4–8 interviews with key informants from the workforce development system. To maintain confidentiality, respondent names are not released. Permission was obtained from collaborative leaders whose quotes can be identified.

The following is the basic template for the interview protocol. Depending on respondents' area of expertise, some of the questions varied; for instance, some interviews explored the recent changes in the workforce development system in more depth.

A. INTRODUCTION

1. Why did you start the collaborative? What was the problem you were trying to address, and what was your vision for a solution?

2. What did it take to get the program off the ground (i.e., get the players at the table, locate and win funding)? What were the challenges?

3. What resources and relationships did you have prior to starting? After?

4. How do the different collaboratives differ?

5. What is the value added of the collaborative?

B. PARTICIPATION

1. Describe the role of various players (in recruitment, screening, literacy, life skills, case management, placement, counseling, evaluation).

2. How would you characterize the structure of the collaboratives? Does one play the leading organizational role or are responsibilities shared across participating organizations?

3. What is the nature of business sector involvement in the collaborative? How about the educational sector? Government? Others? Could you have organized the program without the PIC?

4. How has diversity of involvement contributed to the collaborative? In particular, how does the diversity of involvement help shape better training programs?

C. INSTITUTIONAL SCOPE AND DESIGN

Funding

1. To what extent are the collaboratives constrained by existing program structures and funding streams? How have they been able to tap into different sources of funding?

Program design

2. How do the collaboratives produce and use information? Are you using data actively?

3. What is the purpose of the career ladders approach?

4. How is accountability built into the program?

5. How have the programs changed in response to changes in economic conditions and demand for different kinds of workers? Any other kinds of change (adaptiveness?)

Institutional scope

6. How has the workforce development program been strengthened by their CRI's work on other regional issues?

7. How does consciousness of the three 'E's and their interrelatedness add to their ability to develop workforce development solutions?

D. CONCLUSION

1. How do you see the collaboratives evolving? Will they grow in scope? Sustainability?

2. Is this a replicable model?

3. Is this an effective model?

4. Is this a model that can be brought to scale?

5. Is this a model that "pushes on government?"

6. Who are some of the key players in these projects whom you think we should interview?

7. Do you know of any workforce development initiatives similar to the collaboratives?

Career Ladders

Figure 1.

**ITC CURRICULUM
CAREER TRAINING LADDER**

**CCSF CURRICULUM OVERSITE
INDUSTRY ADVISORY OVERSITE**

JOB PLACEMENT

WORK EXPERIENCE PROGRAM

Jewish Vocational Service

IT Literacy & Basic Learning Skills
(Literacy, math skills, customer service skills)

Jewish Vocational Service

VESL for IT Careers
(Keyboarding, PC/MAC)

Glide Tech
Office Support Skills
(Microsoft Specialist Certification)
448 Class Hours/116 Internship Hours
Jobs

- File Clerk
- Telemarketing
- Customer Service Rep
- Administrative Assistant
- Assistant Manager
- Receptionist

Goodwill Industries
VESL-Office Technology Training - MS Office
Beginner to Advanced
160-320 Class Hours
Jobs

- Information Clerk
- File Clerk
- Customer Service Rep.
- Administrative Assistant
- Receptionist
- Office Manager

Arriba Juntos
Automated Office
Skill Training 400 Hours
Jobs

- Assistant Manager
- Telemarketing
- File Clerk
- Customer Service Rep.
- Administrative Assistant
- Receptionist

Arriba Juntos
IT/VESL Tutoring

Goodwill Industries
Introduction to Web Design &Development 160 Hours
Jobs

- Creative Assistant
- Graphic Production Assistant
- Content Creator

OpNet
EntryNet
Web Training* 320 Hours
Jobs

- Web Design & Production
- Graphic Design
- Web Master
- Quality Assurance
- Technical Support

* CCSF college credit may be available

Advanced Training

OpNet
AdvanceNet
PHP* / MySQL

- Entry-level Web Programmer
- Web Designer
- Entry-level Database Administrator
- Entry-level Database Programmer
- Web Master

* CCSF college credit may be available for PHP

Bay Area Video Coalition
Training.Net 16 Weeks
Jobs

- Web Programming
- Web Database Administrator
- Database Engineer/ Data Analyst
- Project Manager

Web Programming: ASP.NET & SQL
Database Programming and Reporting

* City College of San Francisco

Programming and Computer Science Degree program

Figure 2.

Figure 3.
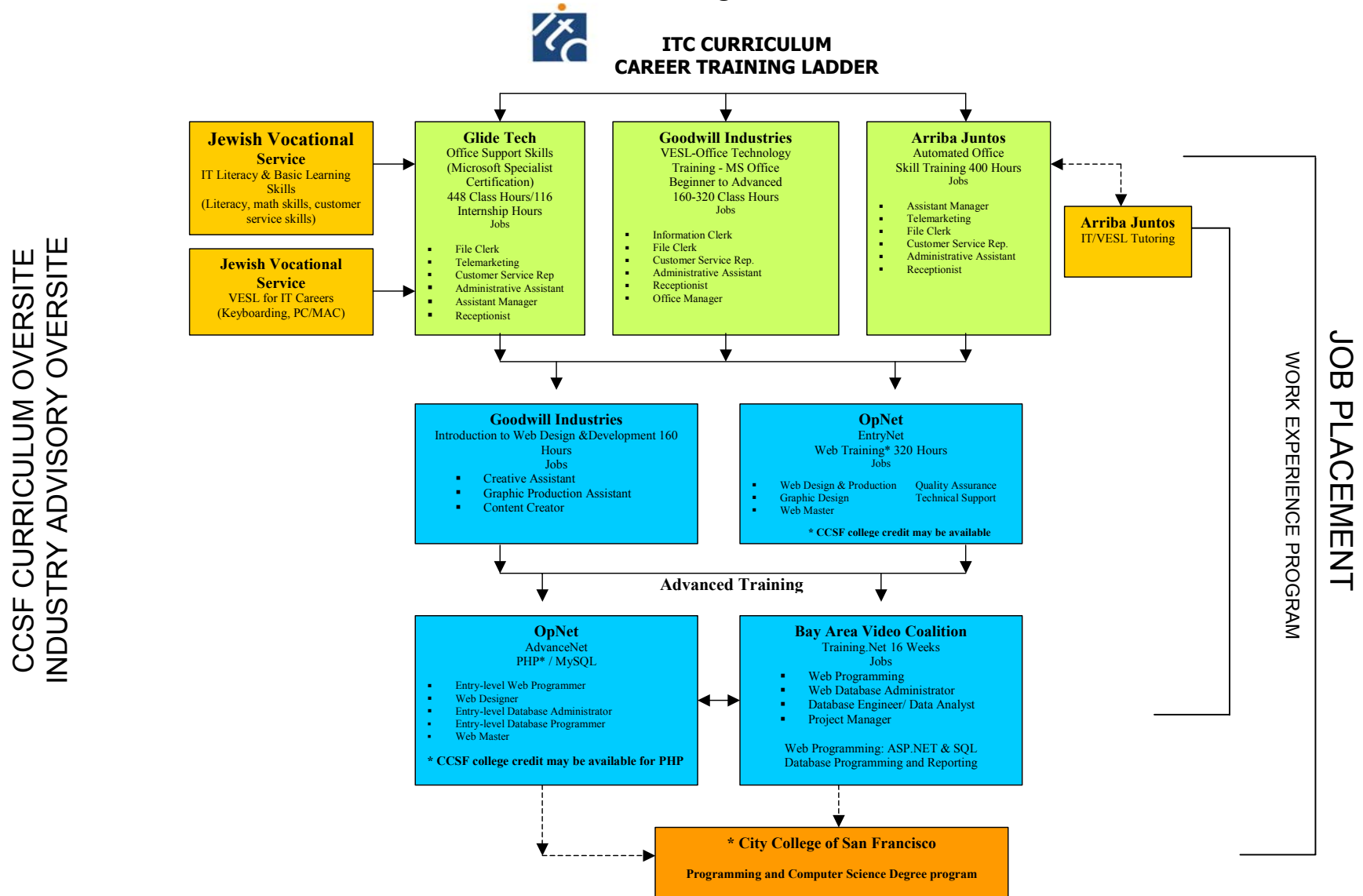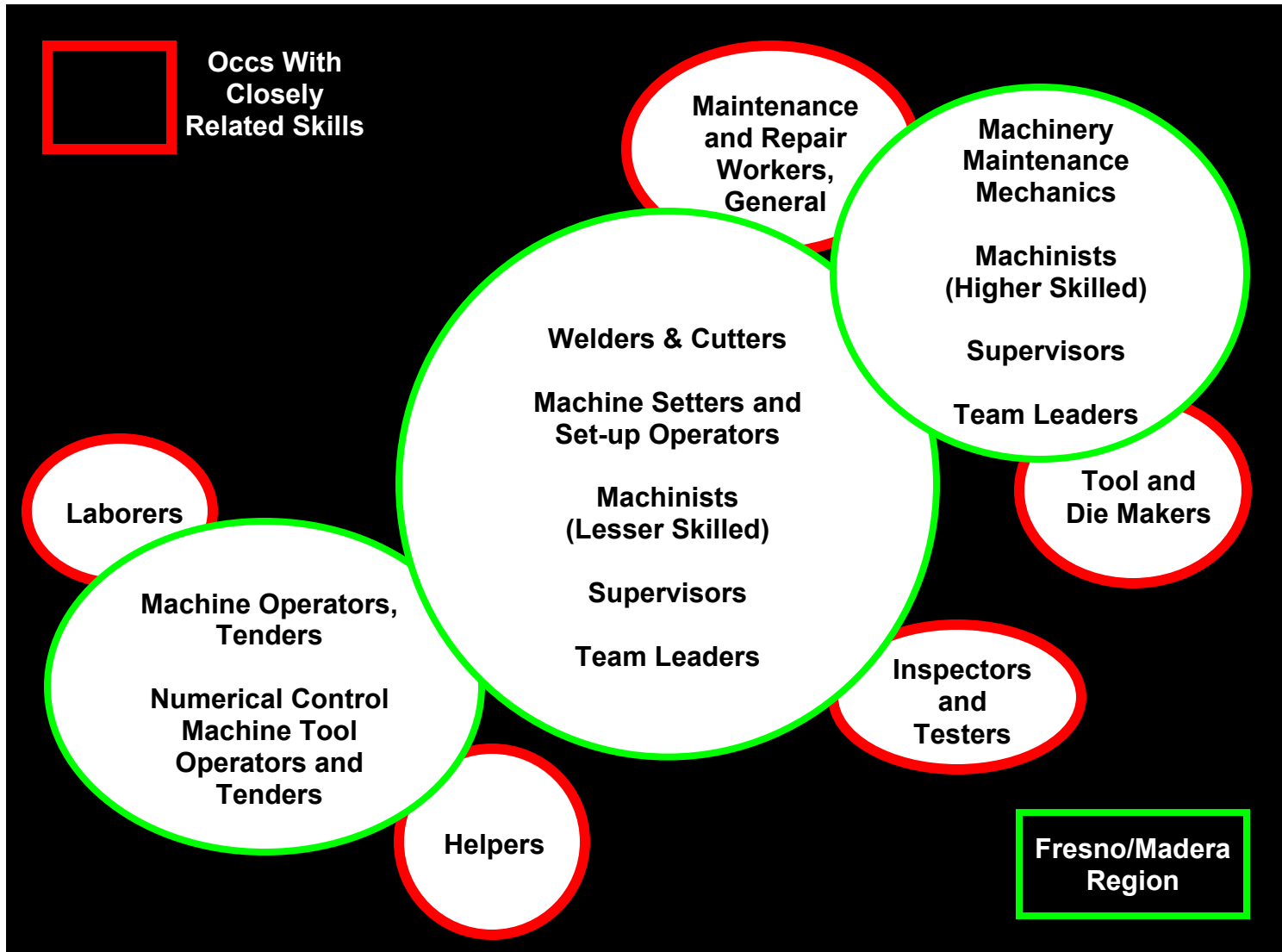

**Community of Logistics Occupations
in Transportation and Wholesale Trade in Gateway Cities**

Figure 4.