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CAREER OPPORTUNITIES:

Career Technical Education and the College Completion Agenda

Part I: Structure and Funding of Career Technical Education in the California Community Colleges

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Executive Summary

The Importance of Career Technical Education to the College Completion Agenda

The national college completion agenda is in full swing but the role of *community* colleges in that agenda is under-appreciated. With a large share of projected job openings requiring college education of less than a bachelor's degree and offering family-supporting wages, the nation's community colleges can make a huge contribution toward a competitive national workforce. Community colleges offer a broad array of career-oriented certificates and associate degrees through what is generally called "career technical education" or CTE. Policymakers across the country are hoping to rely heavily on community college CTE programs to recharge their economies. To fulfill this hope, community colleges must tailor their offerings to address labor market needs and must design programs to be accessible and valuable to students with different levels of preparation and at different stages of their careers. Recent high school graduates, under-employed and unemployed adults, incumbent workers looking for career advancement, and college graduates seeking retraining all can benefit from CTE programs that offer clear pathways from shorter-term, entry-level to longer-term, higher-level credentials in their chosen fields.

In California, the CTE mission is not realizing its tremendous potential, as we explained in our 2011 report *The Road Less Traveled*. Students are not widely encouraged to pursue CTE programs and those who do make far more progress in completing course work than they do in acquiring credentials in their fields. This report is the first in a four-part project aimed ultimately at identifying ways that state and system policy can best support California's community colleges in operating CTE programs that meet the needs of their students and regions.

Here we provide an overview of the complex structure and funding arrangements for the CTE mission and the closely related economic and workforce development (EWD) mission. CTE primarily serves *students* through credit-based programs; EWD primarily serves *employers* by addressing the education and training needs of industries of economic importance to the state and its regions. Our primary interest is in the capacity of community college CTE to deliver education and training that leads to credentials of value to students and

employers and contributes to a competitive state workforce. We include EWD in our study because of its potential to help shape a workforce-relevant CTE mission. An examination of the full extent of the EWD mission and its role in state workforce development is outside the scope of this project.

Key Issues

Our research to date confirms that there is a clear rationale for sustaining separate CTE and EWD missions but that better collaboration across the two missions would strengthen the CTE mission (see *Appendix A* for research methods). In this first phase of research we identified five issues that deserve attention as efforts move forward to improve the effectiveness of CTE in the California Community Colleges.

Structure is fragmented and overly complex. The administrative structure in support of CTE and EWD is extraordinarily complicated and seemingly inefficient. As an outgrowth of serial legislative priorities and actions, programs have been layered one after another, leaving a structure that is highly fragmented. It is hard for those within an organization to work toward a common goal if they are unfamiliar with all the related parts and how their own efforts might complement, overlap, or even duplicate other efforts.

Silos marginalize CTE and hinder program vitality. An especially problematic aspect of the administrative complexity is the silos that have developed at the Chancellor's Office between the division of Academic Affairs and the division of Economic Development and Workforce Preparation and, within the latter division, between EWD and CTE. These silos contribute to the marginalization of career education across the community college system and diminish the impact that EWD partnerships with industry have on the CTE curriculum.

Reliance on competitive grants distorts resource allocation. The silos have evolved in part because of the plethora of mandated competitive grant programs that support EWD and CTE, each with its own requirements for target populations and uses of funds. A reliance on competitive grants has several shortcomings. First, the uneven capacity of colleges to compete successfully for funding results in a "rich get richer" scenario. Second, competition for funds can impede more efficient cooperative efforts and lead to unnecessary duplication of programs

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or services within a region. Third, the need for colleges to pursue specialized grant funding works against the development of a coherent systemwide strategy and potentially misaligns resources with state and regional needs.

Chancellor's Office lacks capacity to provide strategic leadership. The Chancellor's Office lacks the funds, staff, and authority to provide strategic leadership over the CTE and workforce development missions. It serves primarily a compliance and grant administration function. While workforce development and training must be tailored to regional needs, local efforts would be strengthened by a Chancellor's Office with the capacity to: promote a common vision; leverage and maximize funding for the system in support of that vision; ensure that all colleges have quality labor market data to guide planning; coordinate industry sector strategies around skill and competency standards; lead efforts to better align not-for-credit pathways with credit pathways; promote expeditious program approval and timely discontinuation of low priority programs; lead the transition from *course*-based to *program*-based approaches to CTE; and develop robust accountability systems that report student and programmatic outcomes.

Accountability for outcomes is inadequate. State accountability reporting consists primarily of annual counts of degrees and certificates by field and extensive reporting of activities and enrollments. Outcomes by program are not reported because, with few exceptions, students do not officially enroll in CTE *programs*. Colleges can track *course* outcomes but not *program* outcomes, so there is no clear basis for evaluating how well subscribed a program is or how many program entrants complete it and reap benefits in the labor market. Further, the CCC has not yet systematically linked its data to employment data to be able to report labor market outcomes (employment and earnings) for students who have enrolled in CTE programs or courses.

A Review of CTE with Respect to Effectiveness Criteria

This four-part study is guided by a set of seven criteria that characterize an effective CTE enterprise, drawn from an extensive review of the literature on career education and workforce preparation (see Figure 2). Our research to date

leads us to conclude, preliminarily, that current policies, structures, and funding arrangements in California have let the CTE operation fall short of satisfying these criteria. There are exceptional programs, dedicated faculty and staff, and myriad examples of student success, but the enterprise as a whole falls short of its potential and of what California needs to sustain a competitive workforce.

1. Pathways articulate with K-12 where appropriate.

The development of clearly articulated pathways from K-12 to community college, as mandated and funded under the federal Perkins Act and SB 70, is challenged by a decentralized, competitive system in which individual schools and colleges may articulate courses but those courses may not be part of pathways and may not even articulate course-to-course outside of that locality. Articulation is managed at the local level with minimal state-level collaboration between the K-12 and community college systems.

2. Prospective students are helped to identify and enroll in CTE programs of interest.

It is not easy for prospective students to identify CTE programs in which to enroll because of the lack of emphasis on the program as the unit of planning and analysis, inadequate numbers of informed school and college counselors, the complex nature of the entire operation, and the high degree of variability across colleges in the structure of the curriculum.

3. Program offerings adapt to changing labor market needs.

There is uneven access by colleges to timely labor market data to use in program planning. The weak integration of EWD and CTE limits the influence of customized training curricula on credit CTE programs. The three-level program approval process for CTE programs and the absence of effective processes to terminate low-priority programs constrains the responsiveness of CTE curricula to changing labor market needs. Industry input into curriculum through state and local advisory boards is spotty.

4. Efficient pathways exist for career advancement through credential levels.

The marginalization of CTE has precluded a strong emphasis on the award of career-oriented credentials in the CCC. Relatively

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few certificates and vocational associate degrees are awarded. An accountability system focused on course enrollments and other activities, rather than on program completion, reinforces the systematic lack of attention to the structure of career pathways.

5. Students and employers understand the skills and competency outcomes of credential programs. The Chancellor's Office approves new CTE programs but does not set learning outcome standards for CTE programs or coordinate sector strategies whereby industry advisory boards help the system develop skill and competency standards for credential programs. Consequently, similar programs can be of vastly different scope and content at different colleges, sending conflicting signals to students and employers about the expected skills and competency outcomes of credential programs.

6. Credentials have market value for students, as validated by outcomes data. CCC accountability reporting does not include labor market outcomes data by program, so absent individual local efforts, there is no basis for validating the labor market value of individual credential programs. The virtual absence of effective program discontinuation processes makes it likely that programs exist that are no longer of value to students.

7. Resource allocation for CTE programs is predictable and responsive to workforce priorities. Despite higher-than-average costs in many CTE fields, CTE programs generally receive no more per-student state funding than liberal arts and science programs. Most programs seek to supplement their budgets through competitive grants, but uneven capacity to obtain grants creates unpredictable and inconsistent funding levels. The lack of robust processes to eliminate low-priority programs diverts resources from higher-yield purposes.

Moving Forward

There is an important window of opportunity to strengthen the CTE mission so that it can better realize its tremendous potential to serve students, regions, and the California economy. The Chancellor's Student Success Task Force recommendations, the efforts by the new Vice Chancellor for Economic and Workforce Development to improve collaboration between EWD and CTE, and legislative attention garnered by the impending January 1, 2013 sunset date for EWD all provide a window for cooperative efforts to more fully realize the potential for community college CTE programs to help sustain a competitive California economy.

Our research has given us first-hand evidence of the heroic efforts that are occurring across the system to build and sustain impressive CTE programs in the face of very real obstacles. The principal goal of this four-part research project (see Figure 1) is to improve the policy environment in which CTE educators operate so that the CTE mission can be fulfilled, to the benefit of all Californians, without quite the degree of heroism that is required today from the CTE community.

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Career Technical Education – Understanding and Supporting the Mission

The national college completion agenda is in full swing. From the President to governors to government agencies, foundations, national organizations, researchers, and educational leaders, concern is mounting that this country must do a better job preparing students for the 21st Century workforce. There is more agreement about the problem, however, than about the role of *college* completion in solving it. A “college for all” mantra has confused the national conversation because it is too often interpreted as meaning “bachelor’s degrees for all.”¹ In fact, through the award of career-oriented college credentials, the nation’s community colleges can make a huge contribution toward a competitive national workforce.

A large share of projected job openings nationally will be jobs that require college education less than a bachelor’s degree.² Community colleges offer a broad array of career-oriented certificates and associate degrees as part of what is generally called the “career technical education” (CTE) portion of their mission. While some CTE programs offer clear transfer pathways to the baccalaureate level, many certificate and associate degree programs qualify graduates for jobs that pay family-supporting wages without or before extending their education to the baccalaureate level.³ In fact, graduates of some sub-baccalaureate credential programs have higher average earnings than graduates with bachelor’s degrees.⁴ The relative focus on CTE compared to the academic transfer mission of community colleges varies by state, but it is safe to say that most states are hoping to rely heavily on community college CTE programs to recharge their economies, even as many of them are reducing financial support for community colleges.

If community colleges are to fulfill this hope, they must ensure that their CTE program offerings are well aligned with today’s labor market needs – needs which, in many cases, differ greatly from those addressed by earlier generations of “vocational education” programs. CTE programs must be accessible and valuable to students with different levels of preparation and at different stages of their careers. That is, CTE programs must be designed and structured coherently so that students can engage in shorter or longer programs as fit their circumstances, pursuing higher-order credentials as a means to advance their education and careers. Such coherent educational

pathways can begin in high school and extend through certificates and associate degrees and, in many fields, to bachelor’s degrees and beyond. Short-term certificates of less than one year may have limited value by themselves but if combined with work experience and/or packaged as components of longer-term certificates can be vital first steps toward good careers. Certificates, when combined with additional general education to form associate degrees, can expand opportunities in the workplace. The nation’s college completion agenda, therefore, must encompass the completion of certificates and associate degrees of value in the labor market.

CTE in California

As we discussed in a 2011 report called *The Road Less Traveled: Realizing the Potential of Career Technical Education in the California Community Colleges*,⁵ the CTE mission is not granted high priority status within the community college system. Although one-third of community college course enrollments are in courses classified as vocational, only 3% of *all entering degree seekers* earn vocational associate degrees within six years and only 5% earn certificates.⁶ Students pursuing career technical programs make far more progress in completing course work than they do in acquiring credentials in their fields. We cite a variety of explanations, including an undervaluing of career-oriented credentials across the college system, inattention to the design of well-structured pathways, and general low priority of the CTE mission area.

This is an opportune time to take a more in-depth look at the CTE mission in the California Community Colleges (CCC) for several reasons. The system, through its Student Success Task Force recommendations, has committed to improve completion of certificates and degrees and to close performance gaps across racial/ethnic groups.⁷ Increasing the numbers of students entering and completing well-structured CTE programs would help enormously with system completion and equity goals. Support from business and industry groups for increased success in CTE programs should be strong as they seek solutions to California’s projected shortage of educated workers in critical sectors such as health care and professional, scientific, and technical services.⁸ The

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new system Vice Chancellor for Workforce and Economic Development is implementing organizational changes to better integrate CTE within the overall college mission. Finally, the Economic and Workforce Development program, the state statute that authorizes annual line item funding in support of the colleges' workforce development activities,⁹ sunsets at the end of 2012, providing the opportunity for new programmatic and policy directions, if warranted.

This report is the first part of a four-part project to examine the status of the CTE mission area of the CCC and ultimately to identify ways that state and system policy can best support colleges in operating CTE programs that meet the needs of their students and their regions (see Figure 1). Based on interviews with people inside and outside the community college system, site visits, and a review of websites and documents, we describe how CTE has been organized and funded in the CCC. We raise five broad issues regarding the impact that current structural and funding arrangements have had on the capacity of the CTE mission area to help students complete certificates and degrees with labor market value (see *Appendix A* for a fuller explanation of research methods and sources).

There are two working hypotheses behind the project, affirmed preliminarily by interviews and conversations with CTE educators. First, state and system policies are geared more toward the academic transfer mission than to CTE and may not be ideal for the latter. Policies, for example,

on adjunct faculty qualifications, faculty workload compensation, course scheduling, financial aid, types of degrees offered, transferability of credits, and accountability may not well support CTE programs. Second, the policies and programs that have been established *specifically for* CTE and workforce development have been layered one on the other over time to reflect evolving policy priorities of lawmakers. Taken as a whole, they may not serve the colleges, their students, and their communities as efficiently and effectively as is needed in today's economic environment.

Based on a reading of the research and practice literature on career education (see *Appendix A* for list of sources), we developed a set of criteria (Figure 2) for an effective community college CTE mission that will guide all four components of our research agenda. We will use these criteria to help us assess the status of CTE and to identify areas for, and possible means of, improvement through changes to statutes, regulations, and policies that govern how the CTE mission currently operates. The final section of this report summarizes our findings *to date* about the CTE mission in California's community colleges with respect to these seven criteria.

Figure 1
IHELP Research Agenda to Improve the Policy Environment in Support of CTE

- Overview of structure and funding for CTE and identification of key issues (this report)
- Inventory and analysis of CTE certificates and vocational associate degree programs
- Effective state policy approaches used in other states to support CTE
- Comprehensive analysis of state policy environment affecting CTE in California

Figure 2
Criteria for an Effective Career Technical Education Mission

1. Programs articulate with K-12 where appropriate
2. Prospective students are helped to identify and enroll in community college CTE programs of interest
3. Program offerings adapt to changing labor market needs
4. Efficient pathways exist for transition into entry level credentials and advancement through credential levels
5. Students and employers understand the skills and competency outcomes of credential programs
6. Credentials offered have market value for students, as validated by outcomes data
7. Resource allocation for CTE programs is predictable and responsive to workforce priorities

Career Technical Education – Understanding and Supporting the Mission

Scope of the Project

The community colleges play a lead role within the State of California’s workforce development system, which comprises a wide range of agencies, departments, programs, and funding streams focused on helping students, unemployed adults, incumbent workers, and underemployed workers obtain the skills and credentials needed to participate successfully in the workforce and move along a career and wage progression. Studying the operation of the entire workforce development apparatus is *well beyond the scope* of this project. Our interest is primarily in the capacity of the CCC to deliver education and training that leads to credentials of value to students and employers and contributes to a competitive state workforce.¹⁰

Within the CCC vernacular, our interest extends beyond what is called CTE to encompass the Economic and Workforce Development (EWD) mission as it relates to, and interacts with, CTE.¹¹ The economic and workforce development mission of the colleges is sometimes assumed to fall within the purview of CTE. That is, the community college system’s primary missions are often described as Basic Skills, Academic Transfer, and CTE. The assumption that CTE is inclusive of EWD could reflect misunderstanding of its unique character. CTE and EWD are, in fact, separate but highly related missions – with CTE focused *primarily* on delivering credit programs to enrolled college students and EWD *primarily* serving employers through customized training that is not for community college credit and through a large set of other services aimed at advancing the state’s economic growth and global competitiveness.¹² We are most interested in those aspects of EWD that relate to the instructional programs of the colleges. If CTE certificates and associate degrees are to foster economic growth, they should reflect the knowledge of current industry standards and employer needs that resides in the EWD program as a result of its partnerships with employers and the broader workforce development community. CTE program offerings should also evolve as EWD identifies emerging industries and the kinds of instructional programs that can best serve them.

Even this limited scope requires research beyond the institutional boundaries of the community college system. The CCC collaborates with the K-12 system, with departments within the California Labor and Workforce Agency, and with other state departments to deliver education and

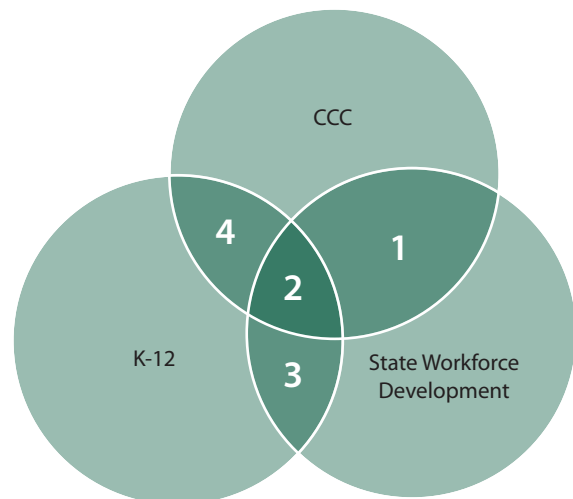
training that does, or could potentially, lead to certificates and degrees. Among these actors, the community college system is the largest source of state investment in workforce education and training, receiving about \$2 billion annually (supplemented by considerable federal and private support) for credit and not-for-credit vocational instruction and EWD program support to address the needs of employers, regional economies, incumbent and unemployed workers, high school students, and college students.

Community Colleges at the Heart of Workforce Education and Training

Figure 3 illustrates the role of community colleges in the state’s workforce development system in relation to other major organizational players. The “state workforce development” component comprises numerous state agencies and programs whose many activities include the provision of education and training for various populations. The CCC is the largest provider of education and training related to state workforce development.

The segments marked “1” and “2” together represent the credit and noncredit CTE instruction that community colleges provide, apprenticeship programs, those portions of adult education aimed at preparing adults for gainful employment, not-for-credit customized training and

Figure 3
Community College Role in Workforce Development



- Key:**
- 1 – CCC CTE
 - 2 – K-14 CTE
 - 3 – K-12 CTE
 - 4 – College readiness/transfer

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services provided to employers, and all other efforts by the economic and workforce development units of the college system to promote state economic development and meet workforce needs. Enrollment in vocational courses amounts to about one-third of total system enrollment; hence, the diagram shows these functions to entail a significant portion of the whole CCC enterprise.

The segment marked “2” represents that portion of the community college system’s workforce development activity that is targeted to school-age students and conducted in collaboration with K-12 schools. These include career pathways that span high school and community college with articulated courses, Regional Occupational Centers and Programs (ROCPs), and a number of specialized state and federal grant-funded programs for which the K-12 sector is expected to collaborate with the colleges. Segment “3” represents work in the K-12 sector that is workforce oriented but does not require collaboration with CCC, such as apprenticeship and adult education programs operated by local education agencies.

Segment “4” refers to areas of K-14 collaboration that are outside of the CTE arena – aimed at college readiness and articulation with respect to the four-year sector or the community college academic transfer function.

Aside from the K-12 system, the principal entities within the “state workforce development” arena with which the community colleges partner in the design and delivery of workforce education and training are the Labor and Workforce Agency, local workforce investment boards, the Health and Human Services Agency, the Department of Industrial Relations, the California Department of Corrections and Rehabilitation, and the Department of Rehabilitation (in the Health and Human Services Agency). *Appendix B* summarizes the major programs in each of these organizations that connect to the community colleges. For the most part these collaborations involve college provision of education and training, mostly of the not-for-credit, customized variety, to different target populations, including incumbent workers, dislocated workers, low income youth and adults, and incarcerated youth and adults. These programs and services are of critical importance to those populations and to the various state agencies and departments in the fulfillment of their missions. Their relationship to the core vocational offerings of the colleges – called CTE for the remainder of this report – is the primary focus of this report.

Structure and Funding of Economic and Workforce Development and CTE

Two Related Missions to Strengthen California's Workforce

The academic offerings of the California Community Colleges have always included vocational courses, now called “career technical education” courses. The mission of CTE is to provide students with the knowledge and skills needed to succeed in employment or in further higher education in a subset of fields deemed technical and career focused. Since the adoption of the Carl D. Perkins Vocational and Technical Education Act in 1984, community college CTE programs have been subject to a set of federal program and reporting requirements that have helped sustain separate institutional structures at the system and college levels to manage CTE. In 1996, the community college mission in California was expanded to include “advancing economic growth and global competitiveness.”¹³ This economic and workforce development (EWD) mission is distinct from, but closely related to, the CTE mission. The combined set of missions is administered at the system level through the Economic Development and Workforce Preparation Division. Most colleges have a similar division of responsibilities reflected in their organizational structures, with varying degrees of separation between CTE and workforce development, on the one hand, and academic transfer programs, on the other.¹⁴

The CTE and EWD missions serve different primary audiences while pursuing the common goal of strengthening the competitiveness of California's workforce. CTE primarily serves *students* – offering credit and noncredit instruction across a wide range of fields leading to certificates and associate degrees and helping students advance their career prospects whether or not they seek a credential. (The second report in this four-part series presents an inventory of CTE credential programs.) EWD primarily serves *employers* by working to identify and address the education and training needs of specific employers and industries of economic importance to the state and its regions.

EWD was designed to be responsive and flexible in meeting industry's immediate and short-term needs through not-for-credit, customized education and training for which businesses contract with local colleges. With fewer constraints on program approval, curriculum development,

employment of faculty, and resource allocation, EWD is also viewed as a kind of incubator of new programs to meet emerging needs of California's workforce. Programs developed for EWD can be transitioned to credit CTE programs if and when the emerging needs become more widespread and enduring. The placement of EWD and CTE within a single division at the Chancellor's Office offers the potential for the integration of the two related missions to the ultimate advantage of California's colleges, students, employers, and workers.

Appendix C shows all of the major EWD and CTE programs and services administered by the community college system, including the purpose and target population of each program. It lists:

- programs that serve matriculated community college students, administered by the CTE division of the Chancellor's Office
- programs for nursing and allied health students, administered by a special unit of the Chancellor's Office
- programs that serve a variety of special populations, administered by the EWD unit
- special purpose programs administered by the Foundation for California Community Colleges because of the nature of the external funding.

The larger of these programs and services are highlighted in the following discussion of the organizational structure and funding of EWD and CTE.

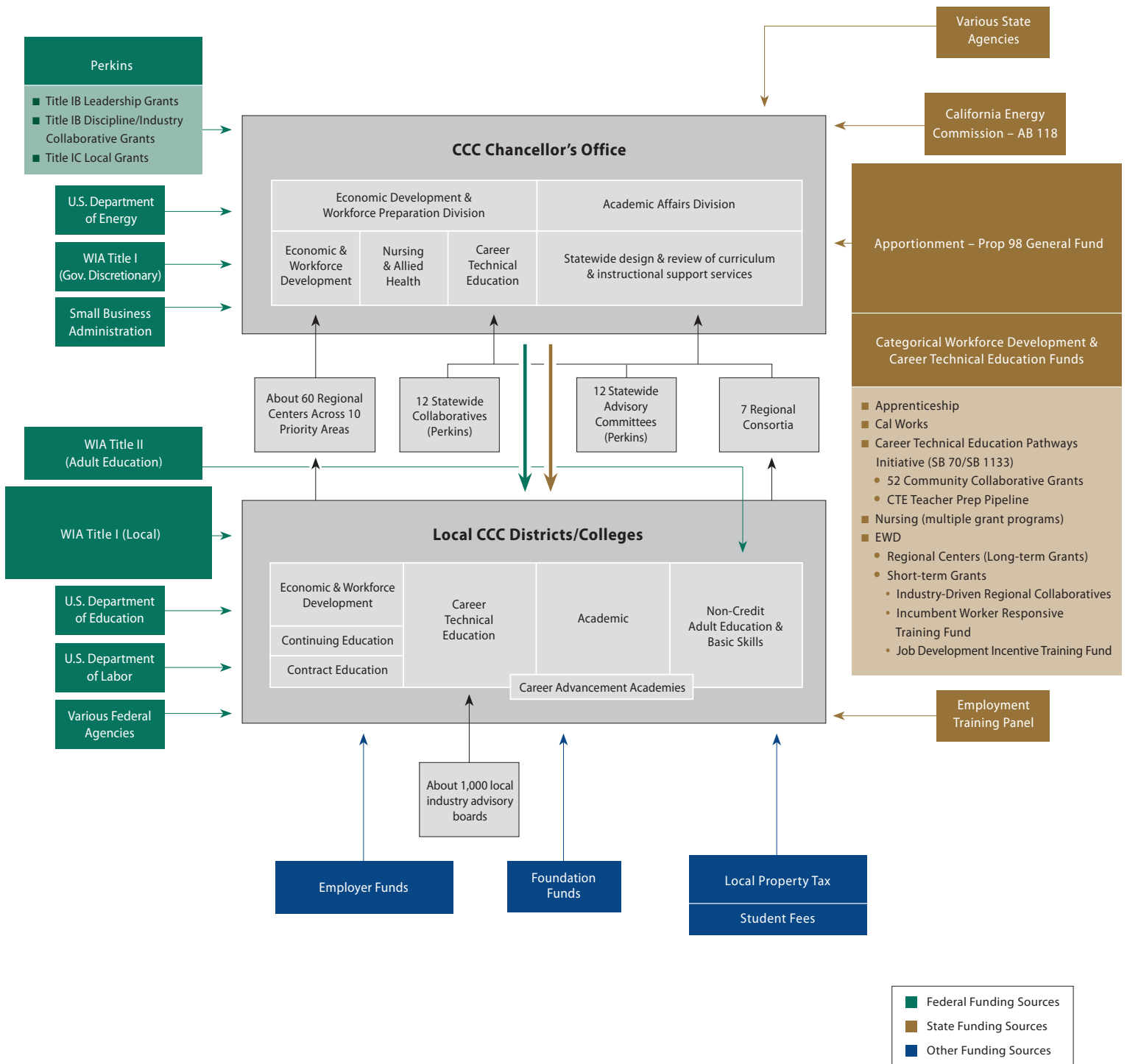
Organizational Structure of EWD and CTE

Chancellor's Office

Figure 4 illustrates the organizational structure of EWD and CTE at the Chancellor's Office and across the colleges. Two caveats are in order. First, the new Vice Chancellor for Workforce and Economic Development is proposing structural changes to the division in an attempt to increase its effectiveness. Figure 4 presents the structure

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Figure 4
California Community Colleges Career Technical Education/Workforce Preparation Structure and Funding (Fall 2011)



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that has prevailed for at least ten years rather than the new structure that has not yet taken final shape. For our purpose of studying how well current state and system policies support the CTE mission, it is important that we examine the structures that have been in effect. Second, Figure 4 is likely incomplete and inexact. The EWD and CTE missions are hugely complex and we have discovered, as a testament to its complexity, that few people understand the entirety of it. We are confident that we have captured the essence of the structure and funding of the mission area but do not pretend that this captures every program, funding source, or relationship. The graphic is intended to be a resource for understanding the kinds of changes to the operation of EWD and CTE that might better support the instructional mission of CTE.

As shown in Figure 4, much of the administrative responsibility for the CTE mission resides in the Economic Development and Workforce Preparation Division of the Chancellor's Office – a separate division from the Academic Affairs Division that administers curricular and academic policies for the system. The principal CTE-related function performed by Academic Affairs is to review and approve CTE programs as part of a three-level program approval process that starts at the college level and moves through regional endorsement to the Chancellor's Office. Regional program review and other regional coordination issues are handled through seven regional consortia with college representatives from among CTE deans and directors.

Aside from the specialized Nursing and Allied Health unit, the Economic Development and Workforce Preparation Division contains two units that divide along the CTE and EWD mission lines.¹⁵ The CTE unit coordinates all CTE programs that have been approved by the Academic Affairs Division. A major part of the responsibility of this unit entails the federal Perkins Act, which is aimed at strengthening career education across K-14 education. The CTE unit prepares the Perkins plan, in collaboration with the California Department of Education, allocates Perkins funds to supplement state apportionments for CTE programs, and coordinates compliance with Perkins reporting requirements. In addition, the unit implements the state's Career Pathways Initiative (SB 70/SB 1133)¹⁶ to strengthen K-12 CTE and align it with community college programs organized around future labor market and industry needs.

Under this initiative, the CTE unit administers a set of competitive grants to fund 52 locally-based projects, called "community collaboratives," which involve a variety of partners, including K-12 and industry, in efforts to strengthen CTE pathways.

The EWD unit coordinates an expansive infrastructure of regional centers (numbering as many as 100 before recent reductions to 60) that are based at colleges and are responsible for ten strategic priorities (see Figure 5). These centers build and maintain relationships with business, labor, workforce organizations, colleges, and other economic development stakeholders in the region to respond to employer and worker needs that support the strategic initiative areas. Their services include customized training and technical assistance, curriculum development, faculty training, labor market analysis, workshops, and conferences. The regional centers do not offer for-credit academic programs. A competitive bid process, about every five years, governs the selection of the regional center sites and the scope of their work.

In addition to the regional center infrastructure for workforce development (which the system references as the "long-term infrastructure") the EWD unit administers

Figure 5
Ten Strategic Priorities for Regional Centers

- Advanced Transportation Technologies and Energy
- Applied Biological Technologies
- Applied Competitive Technologies
- Business and Entrepreneurship
- Environmental Health Safety and Homeland Security
- Health Workforce Initiative
- Interactive Internet & Mobile Applications for Business
- International Trade Development
- Regional Economic and Workforce Development Centers of Excellence
- Workplace Learning Resources

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three ongoing short-term competitive grant programs: industry-driven regional collaboratives; incumbent worker responsive training fund; and job development incentive training fund (see *Appendix C* for details) as well as other state, federal, and private grants.

Regional and other Intermediary Structures

As shown in Figure 4 above, a set of intermediary structures exists to help coordinate CTE and EWD activities across the large CCC system and to reflect the regional nature of California's economy and workforce. The regional centers are the delivery system for EWD, as discussed above. Eight of the ten priority areas are industries or fields that have been identified by the legislature and the CCC as areas for potential economic growth.¹⁷ Two of the priority areas (the last two listed in Figure 5) are aimed at capacity building rather than targeted to address specific industries.

Pursuant to the federal Perkins law there are twelve Statewide Collaboratives charged to promote alignment of CTE programs with employer needs. Each collaborative

has a director at a college, whose district serves as the fiscal agent for the collaborative. Also pursuant to Perkins are twelve statewide Advisory Committees, led by industry, that provide advice to the system regarding career and technical education in each of twelve areas. As shown in Figure 6, there is considerable overlap, but some differences, between the Collaboratives and the Advisory Committees in both the CTE field and host district (areas of difference are italicized). In addition, about half of the collaboratives and advisory committees are defined around a substantive industry sector, e.g., health occupations, public safety, but others are aimed at special populations and cross-cutting topics, such as research and leadership.

The industry sectors that are covered by the Perkins statewide collaboratives and advisory committees (see Figure 6) are not the same as the fifteen industry sectors that are spelled out in the state CTE plan that is prepared and submitted jointly by the community college and K-12 systems as required by the federal

Figure 6
Statewide Collaboratives and Perkins Advisory Committees

Statewide Collaboratives (CTE)		Advisory Committees (CTE)	
CTE Field	District Agent	CTE Field	District Agent
Work-based Learning	<i>Coast</i>	Work-based Learning	<i>Shasta</i>
Agriculture Natural Resource	State Center	Agriculture Natural Resource	State Center
Business Education	Coast	Business Education	Coast
Family Consumer Science	<i>Mt. San Antonio</i>	Family Consumer Science	<i>Shasta-Tehama-Trinity</i>
Health Occupations	Butte-Glenn	Health Occupations	Butte/Glenn
Industrial & Technical Education	West Hills	Industrial & Technical Education	West Hills
Public Safety	Grossmont-Cuyamaca	Public Safety	Grossmont-Cuyamaca
Career Development	Coast	Career Development	Coast
Special Populations*	<i>West Hills</i>	Special Populations*	<i>Grossmont-Cuyamaca</i>
Special Populations*	<i>West Hills</i>	Special Populations*	<i>Grossmont-Cuyamaca</i>
<i>Non-traditional Training</i>	<i>Grossmont-Cuyamaca</i>	<i>Vocational Education Leadership</i>	<i>Academic Senate</i>
<i>Information & Communication Tech</i>	<i>San Francisco</i>	<i>Research-Accountability</i>	<i>Cerritos</i>

Italics signify the differences between the Collaboratives and Advisory Committees in CTE field and district agent.

* There are two "Special Populations" collaboratives.

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Perkins act (Figure 7).¹⁸ Some of the 15 industry sectors are not covered by the statewide collaboratives or advisory committees, despite both sets of structures falling under the purview of the Perkins Act. Included in the state CTE plan but not addressed by the collaboratives or advisory committees are industry sectors that are seemingly vital to the California economy, such as Arts, Media, and Entertainment and Energy and Utilities. Yet a different set of industries are targeted as strategic priorities within the EWD program, as shown earlier in Figure 5, because of the statutory charge for EWD to focus on emerging and high-growth industries.

The fourth regional structure shown in Figure 4 is the set of seven regional consortia (consolidated from ten geographic regions of the state) that bring together CTE educators and administrators at the regional level to coordinate CTE program offerings and activities within a region and to relay local and regional priorities to statewide leadership. The consortia provide the middle level of CTE

program approval between the college and Chancellor's Office approval functions.

Since these regional and intermediary structures span the CTE and EWD missions, there are organizational, statutory, and funding barriers to integration. Nevertheless, there are instances of strong cross-system collaboration. The healthcare area provides a good example. The Health Workforce Initiative in EWD is led by the same staff as the CTE Perkins Collaborative and is the contact for the Statewide Advisory Committee. Such integration may be more readily accomplished in an industry like healthcare, where licensing is dependent upon completion of accredited programs. Regardless of the explanation, the healthcare area is a model of how resources can be leveraged across systems to accomplish mutual goals.

College/District Level

Figure 4 illustrates that the organizational divisions across academic affairs, workforce development, and CTE are largely reflected at the college/district level. While organizational design varies greatly across the diverse 112-college system, administrators who oversee Perkins funding for CTE programs can be organizationally separate from deans and directors of liberal arts and sciences programs. Workforce development administrators are typically more organizationally distinct from the core academic program as they have a portfolio of activities that does not involve the design and delivery of degree programs.

The amount of integration between CTE administrators and workforce development administrators varies for reasons of college size, magnitude of the workforce development activity, and the general idiosyncrasies of college staffing arrangements. Some colleges have integrated CTE and workforce development under a single administrative reporting unit in order to maximize the connections between industry partnerships and academic programs. Other colleges maintain separate units for CTE and workforce development, creating organizational barriers between the two related missions. To varying degrees, depending on the needs of local industry and college priorities, college workforce development units provide customized training to local employers and other entities and engage in economic development activities. Often, these activities can include the analysis and use of local labor

Figure 7
Statewide CTE Plan: 15 Industry Sectors

- Agriculture and Natural Resources
- Arts, Media, and Entertainment
- Building Trades and Construction
- Education, Child Development, and Family Services
- Energy and Utilities
- Engineering and Design
- Fashion and Interior Design
- Finance and Business
- Health Science and Medical Technology
- Hospitality, Tourism, and Recreation
- Information Technology
- Manufacturing and Product Development
- Marketing, Sales, and Service
- Public Services
- Transportation

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market data to guide CTE program development, customized training, and other workforce initiatives.

About one-third of colleges have begun career advancement academies, shown in Figure 4 to span organizational boundaries because they prepare low-income young adults to enter the workforce by combining career education with work-based learning in partnership with local employers and community organizations.

The Perkins Act requires every college CTE program to have a local industry advisory board intended to help colleges adapt program curricula to labor market needs. In addition, the California Education Code requires that CTE programs hold local industry advisory board meetings to review CTE curriculum and act as liaison between the college or district and potential employers.¹⁹ There is no clear definition of "program" that applies to this requirement. One advisory board may be used to advise a college on a set of related certificate and degree programs. Given the array of CTE programs across the 112 colleges, a very rough estimate is that there is somewhere on the order of 1,000 local advisory boards.²⁰ The consensus among those we interviewed for this project is that the level of effectiveness of these local advisory boards is very mixed. Some rarely, if ever, meet and some are very effective. Some interviewees stressed that the cultural chasm between business and academia complicates efforts to get local industry representatives to regularly attend college-level meetings.

There is no systematic relationship between the local advisory boards and the statewide advisory committees; that is, there is no clear means by which state and local perspectives on industry needs and CTE curriculum inform one another. Moreover, as stated earlier, the statewide advisory committees address only a portion of industry sectors, leaving many CTE fields without a relevant statewide advisory committee.

Funding for EWD and CTE

Figure 4 shows that the combined mission area of EWD and CTE is funded from a large variety of state, federal, and nongovernmental sources. State funds flow primarily through the Chancellor's Office and consist of the regular enrollment-based funding that supports all academic programming

and categorical program allocations that support CTE and EWD largely through competitive grants. Federal funds, through the Perkins Act, the Workforce Investment Act, and other federal agencies provide support to the Chancellor's Office and directly to colleges, depending on the purpose and source. Colleges and districts supplement those two major funding sources with grants and contracts from private foundations and employers. Student fees for credit instruction and property taxes are collected at the local level but count toward the computed state appropriation and thus do not increase local resources beyond state formula levels. *Appendix C* lists the funding source and nature of the funding allocation (e.g., competitive grants, formula) for each program at the CCC. It shows that most programs are funded through competitive grants.

CTE Funding

The state's major investment in CTE is through that portion of general "apportionment" funds that supports enrollment in courses classified as CTE courses. With about one-third of course enrollments accounted for in CTE courses, apportionment funding in 2010-11 amounted to more than \$1.5 billion. Many CTE courses are more expensive on a per-student basis than liberal arts and sciences courses because of necessary supplies and equipment and, in some cases, smaller class sizes related to equipment and facility limitations. For this reason, actual local college spending on CTE programs is likely significantly higher than this amount, as colleges supplement apportionment funding with other funds. State support for the development and strengthening of CTE pathways from K-12 through community college is provided through annual allocations of about \$50 million from SB 70/SB 1133. Most of these funds are allocated through a competitive grant process.

Federal Perkins funds (Title IC) supplement the cost of CTE instruction. Perkins funds are divided evenly between K-12 and the community colleges, leaving the colleges with about \$70 million annually in recent years. Of that amount, 85% (about \$60 million) is distributed to colleges to support instructional and related costs. At most colleges, CTE programs compete for shares of Perkins funding through a local budgeting process. Although a valuable supplement to state apportionment funding, Perkins funds amount to less than five percent of state apportionment funding for CTE course enrollments. The Perkins Act (Title IB) also supports the

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statewide advisory committees, collaboratives, and regional consortia through competitive grant processes administered by the Chancellor's Office under the terms set forth in the statewide Perkins Plan.

EWD Funding

State funds are provided via a categorical line item for economic and workforce development activities. The line item is \$22.9 million in the 2011-12 budget, down from over \$46 million in 2008-09. Most of these funds are allocated via competitive grant to support the sixty or so regional centers and for the three short-term grant programs: Industry-Driven Regional Collaboratives; Incumbent-Worker Responsive Training Fund; and Job Development Incentive Training Fund.

Federal Workforce Investment Act (WIA) funds contribute to the EWD mission in a variety of ways. A governor's discretionary fund has been used to support job training and workforce expansion in targeted areas and for special populations. Many of these programs have involved interagency agreements with the Chancellor's Office to provide training and other services. WIA also provides funding for adult education, which operates at some college districts and some K-12 districts to provide low-income adults with job-related skills. Finally, WIA supports the network of local Workforce Investment Boards that can contract with colleges for education and training services for adults, youth, and dislocated workers. Some EWD programs receive funding through grants from other state and federal agencies for special targeted industries or populations.

Key Issues for Addressing the Effectiveness of the CTE Mission

The community colleges serve an increasingly important function to prepare California's future workforce. With this four-part research project we are examining the extent to which community college CTE instructional programs, with the benefit of more supportive policies, could help more Californians earn credentials of value in the workplace. Our project is intended ultimately to produce an agenda for policy reform. For this first report, we examined the structure and funding arrangements behind the operation of CTE. We examined the structure and funding of EWD as well – not to weigh in on the full extent of the community college role in economic and workforce development mission but to understand how that mission affects the vitality of the CTE mission.

There is indeed a clear rationale for the separation of the CTE and EWD missions. EWD can be more responsive to the emerging needs of regional industries by having autonomy to operate outside of the regulatory environment that governs the for-credit instructional programs, including CTE. At the same time, optimal alignment and collaboration across the two missions would foster timely adoption by CTE of curriculum developed through EWD activity.

From this first phase of research we have identified several issues that deserve attention as efforts move forward to improve the effectiveness of CTE in the California Community Colleges.

Structure is Fragmented and Overly Complex

The administrative structure in support of CTE and economic and workforce development is extraordinarily complicated and seemingly inefficient. As an outgrowth of serial legislative priorities and actions, programs have been layered one after another leaving a structure that is highly fragmented. It is hard for those within an organization to work toward a common goal if they are unfamiliar with all the related parts and how their own efforts might complement, overlap, or even duplicate those of others. Our effort to map out all the pieces in Figure 4 was problematic because of the sheer number of programs and the absence of any authoritative compendium of them. Many of the programs appear to have near-identical purposes and the administrative structures do not appear to

be logically organized. Organizing economic development and career education by *industry sector* is gaining traction around the country.²¹ However, the sixty Regional Centers (organized around ten priority areas), the twelve Statewide Collaboratives, and the twelve Statewide Advisory Committees are organized around a mixture of industry sectors and capacity building. The industry sectors that are addressed vary by entity and some vital industry sectors are not addressed at all by these three entities.

Ongoing efforts to reorganize or restructure EWD and CTE operations should seek to simplify and rationalize administrative structures.

Silos Marginalize CTE and Hinder Program Vitality

An especially problematic aspect of the administrative complexity is the silos that have developed at the Chancellor's Office between the division of Academic Affairs and the division of Economic and Workforce Preparation and, within the latter division, between Economic and Workforce Development and Career Technical Education.²² The organizational separation of the whole area from Academic Affairs (a separation largely mirrored at the college level) contributes to the marginalization of career education across the community college system. Despite underlying economic trends that have made some sub-baccalaureate career options far more remunerative than the old "voc ed," CTE programs still carry a stigma. CTE educators report that they feel their programs and efforts are undervalued – perhaps all the more so with the recent push for high school students to complete the universities' A-G course requirements and the "college for all" ethos that has somehow overlooked *community colleges*. Evidence of the marginalization of CTE in the system includes:

- the lack of attention of the system's top priority Basic Skills Initiative to unique aspects of developmental education in CTE programs
- inadequate provisions for addressing the higher costs of many CTE programs and the resulting disproportionate cuts to those programs to accommodate budget reductions

Key Issues for Addressing the Effectiveness of the CTE Mission

- the absence of efforts to reexamine the effectiveness of the "terminal" associate degree as efforts move ahead to redesign associate degrees for transfer or to improve the transferability of technical coursework.

The silos between the EWD and CTE units within the Economic and Workforce Preparation division of the Chancellor's Office further diminish the potential of CTE programs. In theory, the EWD partnerships with employers to design cutting-edge, responsive workforce training programs are supposed to benefit the credit offerings of the colleges by spurring the adoption of new programs that have been shown to meet employer needs. In addition, integration of EWD and CTE could help build pathways from short-term, customized not-for-credit training programs into credit certificate and associate degree programs. In practice, EWD tends to serve employers and special populations in ways that do not materially affect the CTE credit program offerings that serve enrolled students.²³ Little *systemic* attention has been given to developing pathways from noncredit or not-for-credit instruction to credit instruction, including the use of contextualized approaches to basic skills instruction for students pursuing CTE programs.²⁴

Finding ways to better integrate the efforts of EWD and CTE personnel and bring CTE into the institutional mainstream of academic programs could go far to increase the numbers of students earning credentials of value in the workplace.

Reliance on Competitive Grants Distorts Resource Allocation

A major reason for the silos that prevent collaboration across divisions is the plethora of mandated competitive grant programs that support workforce development and career technical education, each with its own requirements for target populations and uses of funds. No accommodation for the higher cost of many CTE programs, as compared to liberal arts and sciences, is made in the general apportionment formula by which funds are distributed to colleges to support course enrollments. CTE programs must compete for Federal Perkins funds, SB 70 funds, and an array of other competitive grants. A separate set of competitive grant opportunities fund EWD activity, for which there is no baseline allocation as there is for CTE enrollments.

As noted by the Legislative Analyst in an early evaluation of SB 70 efforts to reform career technical education, a reliance on competitive grants has several shortcomings.²⁵ One serious issue in a system as diverse as the CCC is the uneven capacity across colleges to write grants and compete successfully for funding. While colleges in all parts of the state should have the capacity to meet regional needs for education and training, the result is a "rich get richer" scenario with certain colleges and districts able to hire good grant-writers, forge strong partnerships with employers and other agencies, as often required by the grant process, and secure funding. Competitive grants, also, by design, engender competition, which can impede more efficient cooperative efforts and lead to unnecessary duplication of programs or services within a single region. Perhaps the most serious shortcoming of relying on competitive grants to fund this mission is that it precludes the development of a coherent, systemwide vision and strategy. As colleges chase specialized grant opportunities, the mission gets shaped by the existence of the grants, potentially misaligning resources with state and regional needs for career education and workforce development.

Efforts to strengthen CTE and workforce development should look for ways to address high-cost, high-need programs in funding allocations and to incentivize cooperation rather than competition. Strategic leadership should be provided to maximize the capacity of the system as a whole to secure grant funding in support of a declared mission and to build the capacity of the colleges to contribute to the mission.

Chancellor's Office Lacks Capacity to Provide Strategic Leadership

Whether it be a cause or an effect of the way the mission is funded and valued, the Chancellor's Office lacks the funds, the staff, and the authority to provide strategic leadership over the CTE and workforce development mission. The Chancellor's Office serves primarily a compliance and grant administration function for EWD and CTE. A perusal of the division website takes one through a labyrinth of grant application and grant reporting requirements with no obvious connections or coherence. Missing from the tour is the seemingly critical connection to CTE program

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development and approval processes, which reside in the separate division of Academic Affairs, and include the leadership provided by CTE deans through the seven regional consortia.

The regional delivery system for EWD – the regional centers – are in one sense a reasonable way to manage the mission across a large, diverse state. However, the Chancellor's Office does not play a strong coordinating role to ensure that statewide needs are met across the statewide priority areas. For example, the Centers of Excellence (one of the regional centers' ten priority areas) are supposed to provide labor market analyses to colleges to support program and resource planning for emerging industries, but the capacity across Centers varies greatly, as does the inclination of colleges to request and use such data. More comprehensive labor market information is also unevenly available across colleges. Campus leads in each of the ten strategic priority areas are accountable to their own college presidents, and lack the authority to direct the actions of other regional centers within their statewide priority area. This misalignment of responsibility with authority can potentially lead to conflicts of interest if a college president's priorities differ from the statewide needs for the priority area.

Workforce development and preparation must be tailored to local and regional needs. Yet local responsiveness is compatible with – indeed it is strengthened by – statewide coordination. The potential of the CTE and workforce development mission seems limited by the lack of capacity of the Chancellor's Office to provide strategic leadership to:

- promote a common vision and ensure that disparate grant programs work in concert
- leverage and maximize funding for the mission area systemwide
- ensure that all colleges have access to quality labor market analyses to guide their program and resource planning
- coordinate sector strategies and establish skill and competency standards so that like certificate and degree programs have common learning outcomes regardless of how the curriculum is delivered

- minimize duplication within regions and ensure a reasonable degree of equity across regions in capacity to fulfill the mission
- lead efforts to better align not-for-credit and credit pathways and to develop effective types of credentials to meet workforce needs
- promote the incorporation of EWD curricula into CTE programs, expeditious program approval, and timely discontinuation of low priority programs
- lead the transition from *course*-based to *program*-based approaches to CTE
- develop robust accountability systems for CTE that report student and program outcomes.

The Student Success Task Force has recommended strengthening the Chancellor's Office for a variety of reasons. Although the Task Force did not specifically consider the CTE or EWD mission as a justification for the recommendation, efforts to strengthen the office should be sure to address the need to strengthen capacity to manage the CTE area.

Accountability for Outcomes is Inadequate

Accounting appropriately for the successful outcomes in CTE is proving challenging for many states as lawmakers and the public demand more information on results. Program completion rates don't account for the many students who are not seeking a credential but want to take a course or a set of courses for career advancement purposes or to earn industry certification. For both sets of students – credential seekers and course-takers – tracking labor market outcomes would be especially informative as it would tell us whether employment and earnings were positively affected by enrollment in a community college program.

CCC accountability for CTE outcomes is lacking in two main ways. First, with few exceptions, students do not officially enroll in CTE *programs* so there is no ability to monitor completion rates, job placement rates, or wages by program. Colleges can track only enrollment in CTE

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courses and completion rates in those courses but cannot track program completion. This is highly problematic as the CTE mission area is fundamentally about *programs* – more so than the academic transfer mission, which is heavily oriented toward general education. Colleges take pride in gearing programs to meet local and regional needs yet there is no basis for evaluating how well subscribed a program is or how many program entrants complete it and reap benefits in the labor market. Reporting course outcomes is very different from reporting program outcomes. The second deficiency in accountability for CTE is that the CCC has not yet systematically linked its data to employment data to be able to report labor market outcomes for students who have enrolled in CTE programs.²⁶ Improving one's job situation is almost certainly the primary reason students enroll in CTE. Labor market outcomes would be a very valuable component of accountability.

Leading states have far more robust mechanisms for reporting CTE outcomes. In California, reporting consists primarily of annual counts of degrees and certificates by field and extensive reporting of activities and enrollments. For example, the recent evaluation of the CTE Pathways Initiative reported that the program helped build 5,792 partnerships, developed or revised over 1,000 courses, provided trainings or externships to over 36,000 staff at high schools and community colleges, and served almost 750,000 students.²⁷ There is no basis for interpreting whether these numbers, large though they are, signify that programs have been effective and needs have been met.

As another example, Santa Monica College contracted with a private firm for a study of labor market needs for purposes of college CTE planning. The very impressive study examined gaps between need and credentials being produced. But when it shifted to reporting on the status of its CTE programs for addressing those gaps, the study could only report trends in *course* enrollments and *course* completion rates.²⁸ Since the same CTE course may be taken by students seeking different certificates or degrees, or by students seeking no credential at all, the correspondence between course outcomes and program outcomes is tenuous. A CTE educator at one college expressed frustration with the lack of program-based outcomes data, asking rhetorically how she is to know how to allocate Perkins funds to CTE programs if she has no data on students' outcomes by program. This lack of program outcomes data is undoubtedly one reason why none of the college representatives with whom we spoke said they had effective processes for discontinuing CTE programs.

The Student Success Task Force has recommended more emphasis on having students declare programs of study and has put forth expanded accountability metrics that include better reporting of certificates and degrees awarded. Both could go a long way toward improving accountability for CTE outcomes. But in addition, ways must be found to learn why students enroll in CTE courses so that colleges can track whether or not students achieved their goals. Systematic reporting of labor market outcomes will undoubtedly have to be part of any improved accountability effort for CTE.

A Review of CTE with Respect to Effectiveness Criteria

From a review of the literature on career education and workforce preparation (see *Appendix A*), we set forth seven criteria that characterize an effective CTE enterprise (see Figure 2 on page 2) which will guide the full research agenda. Our research *to date* leads us to conclude, preliminarily, that current policies, structures, and funding arrangements in California have let the CTE operation fall short of satisfying these criteria. There are exceptional programs, dedicated faculty and staff, and myriad examples of student success, but the enterprise as a whole falls short of its potential and of what California needs to sustain a competitive workforce.

1. Pathways articulate with K-12 where appropriate.

The development of clearly articulated pathways from K-12 to community college, as mandated and funded under the federal Perkins Act and SB 70, is challenged by a decentralized, competitive system in which individual schools and colleges may articulate courses but those courses may not be part of pathways and may not even articulate course-to-course outside of that locality. Articulation is managed at the local level with minimal state-level collaboration between the K-12 and community college systems. With little Chancellor's Office coordination and course-centric, rather than program-centric, accountability, the emphasis on programmatic pathways is weak. Courses may articulate between high school and college but those courses may not be part of a pathway to a credential of value. Pathway development is also challenged by declining attention to, and funding of, high school CTE as the A-G "college prep" curriculum takes center stage in college readiness efforts.

2. Prospective students are helped to identify and enroll in CTE programs of interest.

It is not easy for prospective students to identify CTE programs in which to enroll because of the lack of emphasis on the program as the unit of planning and analysis. School and college counselors don't know as much as they should about the menu of program offerings and the siloed and complex nature of the entire operation makes it difficult to access, particularly because there is such variation across colleges in the structure of the curriculum. Websites and portals have been set up to help students identify career goals but they are under-developed and particularly ineffective in helping students identify the college locations where programs of interest are offered.²⁹ The weak integration of

EWD and CTE makes it difficult for prospective students who are being served through not-for-credit customized training or other special programs to transition to credit CTE programs.

3. Program offerings adapt to changing labor market needs.

The availability of timely labor market data for colleges to use in program planning is spotty and the responsibility for providing it is confused. The Centers of Excellence (one of the ten priority areas of the Regional Center structure) provide some labor market information within their regions but are not charged to do comprehensive analysis at a level that would guide planning for all program areas. Some colleges purchase labor market information from outside providers but not all can afford to do so. The Employment Development Department and local workforce investment boards provide labor market information as well, for some areas of the state, but not all colleges are equipped to access and use the information. The Chancellor's Office does not have the capacity to provide or acquire localized labor market data across the system. The weak integration of EWD and CTE limits the influence of customized training curricula on the credit CTE programs. The three-level program approval process for CTE programs and the absence of effective processes to terminate low-priority programs constrains the responsiveness of CTE curricula to changing labor market needs. Industry input into curriculum through local advisory boards is spotty and the twelve statewide advisory committees don't cover all important areas of the CTE curriculum.

4. Efficient pathways exist for career advancement through credential levels.

The marginalization of CTE has precluded a strong emphasis on the award of career-oriented credentials in the CCC. Relatively few certificates and vocational associate degrees are awarded. An accountability system focused on course enrollments and other activities, rather than on program completion, reinforces the lack of attention to the structure of career pathways. There are pockets of efforts, sustained by competitive grants, to build efficient career pathways but these are not occurring in a systematic fashion across the colleges. The organizational silos prevent seamless transition from adult education or not-for-credit workforce training into credit certificate or degree programs.

A Review of CTE with Respect to Effectiveness Criteria

5. Students and employers understand the skills and competency outcomes of credential programs.

Although the Chancellor's Office retains final approval authority over new CTE programs, its duties do not include the setting and enforcing of learning outcome standards for new and existing CTE programs. Nor does it coordinate sector strategies whereby industry advisory boards would help the system develop skill and competency standards for credential programs. Statewide industry advisory boards are not structured to provide comprehensive coverage across sectors, local industry advisory boards have spotty records of effectiveness, and there is no expectation of two-way communication between state and local advisory boards. Consequently, similar programs can be of vastly different scope and content at two different colleges, sending conflicting signals to students and employers about the expected skills and competency outcomes of credential programs.

6. Credentials have market value for students, as validated by outcomes data.

CCC accountability reporting does not include labor market outcomes data by program, so absent individual local efforts, there is no basis for validating the labor market value of individual credential programs. Colleges do get input from various industry advisory boards – local advisory boards required by Perkins and the statewide advisory committees – and individual colleges perform surveys of graduates and employers. But there is no systematic approach to validating program outcomes. The weak integration of EWD and CTE limits the influence of their industry partners on the CTE curriculum and the virtual absence of effective program discontinuation processes makes it likely that programs exist that are no longer of value to students.

7. Resource allocation for CTE programs is predictable and responsive to workforce priorities.

Despite higher-than-average costs, especially in health care and other technical fields, CTE programs generally receive no more per-student state funding than liberal arts and science programs. Most programs supplement their budgets through federal Perkins funds and

other competitive grants, but some colleges are more successful than others in competitive processes, leading to uneven capacity to offer high quality CTE programs. The lack of robust processes to eliminate low-priority and low-enrolled programs diverts resources from higher-yield purposes. Reliance on competitive grants to sustain the EWD and CTE mission areas skews efforts toward funders' requirements rather than aligning resource allocation with systemwide strategies to meet student and regional needs.

Moving Forward

There is an important window of opportunity to strengthen the CTE mission so that it can better realize its tremendous potential to serve students, regions, and the California economy. The Chancellor's Student Success Task Force recommendations to encourage student enrollment in programs of study, to strengthen accountability for outcomes, and to strengthen the Chancellor's Office are especially hopeful for improving CTE outcomes. The new Vice Chancellor for Economic and Workforce Development is moving quickly to make organizational changes that would improve collaboration between EWD and CTE, changes that would address several of the issues raised in this report. The legislature is considering changes to the statutes that authorized the economic development mission of the colleges in view of the January 1, 2013 sunset date, and there is legislative interest in streamlining the state's workforce development system. Colleges across the state are eager to demonstrate the benefits of their career education and training activity to lawmakers looking to boost California's economy.

Our research has given us first-hand evidence of the heroic efforts that are occurring across the system to build and sustain impressive CTE programs in the face of very real obstacles. The principal goal of this four-part research project (see Figure 1) is to improve the policy environment in which CTE educators operate so that the CTE mission can be fulfilled, to the benefit of all Californians, without quite the degree of heroism that is required today from the CTE community.

Appendix A

Research Methods and Resources

For this project, research was conducted by IHELP staff as well as by a hired consultant. IHELP staff conducted numerous interviews, visited college sites and programs, and reviewed extensive research and practice literature on career education and workforce and economic development. We hired Rona Sherriff because of her expertise on California workforce development and career education, gained from her work at the Senate Office of Research as well as her current consulting for organizations concerned with workforce issues. Rona interviewed numerous individuals from a variety of state offices with the primary task of understanding the various programs and funding sources of the workforce-related entities that interface with the California Community Colleges, as well as those internal to the colleges. She gathered extensive data on statutory authority and budget allocations for workforce programs and discussed issues of mission effectiveness with interviewees. The documents reviewed and individuals contacted for this research are listed below.

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Appendix B

State Agency Programs With Connection to Community College Workforce and Training Mission

Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population	Community College Connection
California Department of Education and Local Education Agencies				
California Partnership Academies (CPA)	State, federal, industry Competitive grants	Career-themed high school academies preparing students for both the workplace and college. Over 450 programs operated by local education agencies.	At-risk high school students grade 10 – 12	Perkins State Plan calls for articulation with community colleges
Regional Occupational Centers/Programs (ROCP)	State Categorical program (now in flex)	74 centers that offer more than 3,900 CTE courses are in areas such as information technology, agriculture, business, culinary arts, healthcare, construction and auto technology. Many ROCPs partner in the implementation of career pathways, career academies, and linked learning.	High school students (at least 90%) and adults	Perkins State Plan calls for articulation with community colleges
Health Career Education	State Competitive grants	Exposes students to health care fields, integrates the health career curriculum across disciplines and designs grade 7 – 14 health career standards-based, sequenced pathways.	Middle and high school students	Perkins State Plan calls for articulation with community colleges
Perkins CTE programs	Federal Formula distributions to LEAs (portion reserved for administration and special programs)	Federal act that provides states with funding stream for secondary and postsecondary education to improve career-technical education programs; 50-50 split between schools and community colleges.	High school students (for CDE portion)	Perkins State Plan calls for articulation with community colleges
Apprenticeship	State Formula allocations to LEAs	On-the-job training and education delivery to prepare individuals for employment in over 800 “apprenticeable” occupations. CDE provides “related and supplementary instruction” in local adult schools and ROCPs.	Age 18 and older	Both systems provide “related and supplementary instruction”

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Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population	Community College Connection
Adult Education	Federal State Categorical program (now in flex)	Offered through 527 adult school districts at multiple sites. Offerings include adult basic education, short-term CTE courses, ESL, ESL-citizenship, adult secondary education leading to a high school diploma, classes for adults with disabilities, health and safety, home economics, parent education, and classes for older adults.	Adult immigrants; adults with disabilities; disadvantaged and homeless adults; incarcerated adults, older adults, single parents and “displaced homemakers”	Similar adult basic education services are provided by community colleges in some areas of the state; any connections are local and inconsistent; can be in the form of articulation agreements, bridge programs, co-location
Agricultural Career Technical Education Incentive Grant Program	State Categorical - at local option	To maintain high-quality, comprehensive agricultural vocational programs in California's public school system to ensure a constant source of employable, trained, and skilled individuals.	High school students	Articulation with community colleges required pursuant to the Perkins State Plan
Specialized Secondary Programs	State Competitive grants Categorical program now in flex (for current recipients)	Provides students with advanced learning opportunities in a variety of subjects to prepare for the world of work or higher education. Generally used to establish a smaller learning community or a school-within-a-school.	High school students	Grant process requires collaboration with higher education; articulation with community colleges required pursuant to the Perkins State Plan
California Career Resource Network (CalCRN)	Federal State Categorical program	Distributes career information, resources, and training materials to middle school and high school counselors, educators, and administrators to enhance their ability to provide career guidance to students.	Middle and high school students	CalCRN tools cross reference community college tool - Who Do You Want to Be? (SB 70 funded project of the CCC Academic Senate)
Linked Learning Academies	Private Foundation Competitive grants	Pathways that link learning with student interests and job preparation with the objective of higher graduation rates, increased college enrollments, and higher earning potential.	Secondary school students	No formal connection; preparing students for college is one of the guiding principles
National Academy Foundation (NAF) Academies	Private Foundation Competitive grants	Schools within schools or stand-alone public schools using educational model that includes industry-focused curricula, work-based learning experiences, and business partner expertise from four themes: finance, hospitality & tourism, information technology, and engineering. Goal is to prepare young people for college and career success.	High school students	No formal connection; program model is geared towards meeting college requirements

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Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population	Community College Connection
Partnerships for Advanced Studies	Private Foundation Competitive grants	"Next Generation Learning Communities" with focus on transforming teaching and learning, redesigning high schools, and sustaining change through business and civic leadership. Redesigning high schools work supports the development of career academies and career- themed programs.	High school students in selected areas	No formal connection; program model is geared towards meeting college requirements
Labor and Workforce Development Agency		Connects people to job training opportunities in their communities, distributes Workforce Investment Act funds to local workforce investment boards (WIBs), provides direct training and services to businesses and workers.		Community colleges are a large provider of training services that the Agency purchases.
Workforce Investment Act (WIA)	Federal Contracts with local Workforce Investment Boards	Three levels of service are provided through One-Stop Career Centers: <ul style="list-style-type: none"> ■ Core services - outreach, job search and placement assistance, and labor market information available to all job seekers ■ Intensive services - more comprehensive assessments, development of individual employment plans and counseling and career planning ■ Training services - customers are linked to job opportunities in their communities, including both occupational training and training in basic skills. Participants use an "individual training account" to select an appropriate training program from a qualified training provider. 	Low-income youth (ages 14-21) who face barriers to employment; adults 18 years or older are eligible for core services; priority for intensive and training services is given to recipients of public assistance and other low income individuals and dislocated workers	Depends on the initiative, which are a mix of credential and non-credential programs
WIA – Governor’s Discretionary: WIA Administration and Program Services	Federal Contracts and interagency agreements	Supports WIA administrative services at the California Workforce Investment Board and the Employment Development Department.	Administrative support of workforce programs	
WIA – Governor’s Discretionary: Industries with a Statewide Need	Federal Competitive grants	Supports solicitations in nursing education and other areas of need for workforce expansion.	Adults, youth, dislocated workers	

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Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population	Community College Connection
WIA local funding	Federal	Distributed to 49 local workforce investment boards (WIBs) for core, intensive and training services.	Adults, youth, dislocated Workers	
Department of Labor: Trade Adjustment Assistance	Federal Fees and contracts	Assistance to workers laid off due to increased imports from any foreign country. Services include training, job search allowances and relocation allowances to help eligible individuals return to work. Allowable training includes classroom training, on-the-job training, customized training designed to meet the needs of a specific employer or group of employers, apprenticeship programs, postsecondary education, or remedial education (which may include GED preparation, literacy training, basic math, or English as a Second Language).	Dislocated Workers	Program is customized for a worker or group of workers so only connected to community college as appropriate for client
Employment Training Panel – Core Program	State - Unemployment insurance tax Contracts with business	Provides financial assistance to California small businesses to support customized worker training to: <ul style="list-style-type: none"> ■ attract and retain businesses that contribute to a healthy California economy ■ provide workers with secure jobs that pay good wages and have opportunities for advancement ■ assist employers to successfully compete in the global economy ■ promote the benefits and ongoing investment of training among employers. 	Incumbent workers, new hires	About 20% of core funding goes to projects that are developed and administered by CCC contract education as non-credit
Employment Training Panel – Health Workforce Initiative	Federal	Training for incumbent nurses and allied medical professionals. Health care projects are customized for health care employer needs. For example they can develop specialized training for current workers, provide new nurse graduates on the job training, or provide cross sector training in information technology, patient care, etc.	Incumbent and new hires in health care industry	Customized employer training; only connection may be through contract ed

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Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population	Community College Connection
ETP – Alternative and Renewable Fuel and Vehicle Technology Program (AB 118)	Federal stimulus State	The California Energy Commission (CEC) funds training for incumbent and unemployed workers in alternative and renewable fuels and vehicle technologies. The program is administered by ETP, in partnership with the CEC, with the goal of transforming California's fuel and vehicle types to meet the state's climate change policy goals.	Incumbent workers and unemployed	Customized employer training to develop industry recognized skills
Health and Human Services Agency		Provides clients with appraisal of education and employment background and with job search services; directs people to education and training programs. Provides some direct employment and training services and support services such as child care and transportation.		Community colleges may provide language and job-related training to HHS clients
CalWORKs Welfare-to-Work Program (Dept. of Social Services)	Federal State match	<p>Provides a range of workforce development services to eligible welfare recipients including:</p> <ul style="list-style-type: none"> ■ an appraisal of their education and employment background ■ job search services (assistance in finding a job) ■ unpaid work experience/preparation ■ vocational training placements ■ adult education or community college programs. <p>Participants may also be eligible for help with child care, transportation, and work-related or training-related expenses. Funding pays for county administration, recipient grants, welfare-to-work case management and support services, and education and training.</p>	Serves welfare-to-work participants in 58 counties operated locally by county welfare departments or their contractors	Welfare-to-work clients can go to college under a “self-initiated” program after they test the labor market and find a lack of work for their skills; some counties create their own services, which may link up to colleges for workforce preparation services.
Cal Fresh (Dept. of Social Services)	Federal County	Provides employment and training, community services, work experience, and supportive services to eligible recipients in 23 counties. Provides services to Non-Assistance Food Stamp (NAFS) applicants and general assistance recipients.	Non-assistance food stamp applicants and general assistance recipients	Potential for customized local training programs

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Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population	Community College Connection
Refugee Resettlement Program (Dept. of Social Services)	Federal	Provides an 8-month stipend to help refugees get settled and employment and training services such as employability services, English language instruction, on-the-job training, transportation, day care, citizenship and employment authorization document assistance, and translation/interpretation.	Single individuals and couples without children who are newly arrived in the United States	Services are generally provided by community based organizations with no connection to community colleges but can potentially involve adult not-for-credit through a community college
Department of Industrial Relations				
Apprenticeship Program (Administration)	State	The Division of Apprenticeship Standards establishes and oversees on-the-job and classroom training in more than 200 occupations; works with employers and training providers.		Colleges may provide "related and supplemental instruction" portions of apprenticeship programs
CA Department of Corrections and Rehabilitation (CDCR)				
Vocational Training Program	State Federal Contract	Fifteen different vocational trades are taught within CDCR facilities statewide.	Adult prison inmates; generally those without high school degree or GED	Training could be provided under contract with colleges
Incarcerated Individuals Program	Federal Contract	Offers postsecondary academic and vocational skills training.	Inmates with high school diploma or GED	Programs are articulated with community colleges; programs offered via contract with local colleges
Juvenile Justice	State Federal No funding to CCC	Offers academic, vocational, and life skills education and training. Provides CTE courses as part of high school program and works towards alignment with CDE's CTE sectors.	Youth ages 16 – 25 who are wards of the court	High school courses could be articulated with CC courses and pathways
Department of Rehabilitation				
Vocational Rehabilitation Services	Federal MOU	Contracts for employment focused education and supportive services for clients.	Disabled individuals	Dept. of Rehabilitation has an MOU with the three segments of higher education to serve their clients

Appendix C

Principal Community College Workforce and Training Programs

Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population
CA Community College Office of the Chancellor - Economic and Workforce Preparation (EWDP) Division			
CTE Unit: Career Technical Education - credit and noncredit	Federal Formula	Provides program coordination and advocacy, policy development, and coordination with K-18 workforce preparation and CTE; responsible for development and implementation of statewide Perkins plan and compliance with the plan. Provides supplemental funding and support for credit-bearing career technical education; administers Governor's Career Pathway Initiative (SB 70 and SB 1133)	Matriculated community college students
CTE Unit: Regional Consortia	Federal Formula	Regional-based planning and coordination mechanism with 10 regions and specified chairs at lead colleges. Provide middle-level program review for proposed new CTE programs.	Community college students in credit CTE programs
CTE Unit: Statewide Collaboratives	Federal Formula	12 collaboratives, with associated statewide advisory committees, some of which focus on industry sector and others on cross-cutting programmatic issues. A primary goal is to promote alignment of CTE programs and competencies with employer needs.	Community college students in credit CTE programs
CTE Unit: Community Collaboratives	Primarily state Some federal Competitive grants	52 locally-based projects provide coordinated and strategic leadership for CTE efforts around four themes: CTE pathways from middle school to college; middle school outreach; professional development; faculty externships. Grantees include high schools, ROCPs, community colleges and adult education that have partnered with local businesses, WIBs, youth councils, economic development agencies, and other non-profits.	Various, including middle school and high school students; community college students; adults; faculty
CTE Unit: Apprenticeship Education	State Categorical program (now in flex) for apportionments to colleges	Wages provided by the employer, supplemental instruction provided by both CDE and CCC.	Union workers and employers
Nursing and Allied Health Unit	Federal State Multiple competitive grant programs; Some special purpose allocations defined in legislation and budget	Promotes expansion and development of nursing and allied health programs at the colleges, primarily through the award and monitoring of grant programs.	Community college students in nursing and allied health

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Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population
Economic and Workforce Development (EWD) Unit: Statewide Priority Areas and Regional Centers	State Local match Competitive grants (long-term)	<p>Network of about 60 regional delivery centers, considered the long-term infrastructure of EWD, that span 10 statewide priority areas. The centers work with colleges to develop customized curriculum and training developed in conjunction with employer needs. Some result in employer-recognized credentials but few programs are credit-bearing. Statewide priority areas as of Fall, 2011:</p> <ul style="list-style-type: none"> ■ Advanced Manufacturing ■ Advanced Transportation Technology & Energy ■ Biotechnology ■ Environment, Health, Safety & Homeland Security ■ Health Care ■ International Trade ■ Manufacturing ■ New Media & Entertainment ■ Workplace Skills & Education ■ Centers of Excellence. <p>The Centers of Excellence are intended to serve the other priority areas by providing labor market analyses in relation to specific industries, other customized research, and capacity building.</p>	Employers, incumbent workers, displaced workers, new hires
EWD Unit: Incumbent Worker Responsive Training Fund	State Competitive grants (short-term)	Programs that integrate basic skills and CTE curriculum to help workers transition into high-tech and high- demand job sectors.	Employers and incumbent workers in high-growth industries
EWD Unit: Job Development Incentive Training Program	State Competitive grants (short-term)	Grants to community colleges to provide training at no cost or low cost to participating employers who create living wage employment and upgrade opportunities for welfare recipients and the working poor.	Public Assistance recipients
EWD Unit: Industry Driven Regional Collaboratives	State Competitive grants (short-term)	These grants provide funds to community colleges for flexible, short-term, local projects to meet regional business needs, particularly in high growth, emerging technology industries. They are "demand-driven" projects to meet gaps identified in regional economic plans.	Employers and students

Appendix C

Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population
CA Community College Office of the Chancellor - Academic Affairs Division		Approves new CTE curriculum and oversees some CTE programs and policies. Priority areas include basic skills and transferability of CTE. Oversees policy regarding local college provision of programs and services.	
Academic Senate - Statewide Career Pathways: Creating School to College Articulation	State Specified budget allocation	CCC Academic Senate project to develop a database of articulation agreements, provide opportunities and support for faculty at schools and colleges to meet and develop agreements, and create outreach strategies to encourage participation of students, parents, and schools/college personnel.	High school and community college students and parents
Adult Education (CTE non-credit)	Federal State Formula allocations to eligible districts	Noncredit courses are offered in 17 community college districts to provide students with lifelong learning and career preparation opportunities. Courses are classified into ten instructional areas: parenting education; basic skills; ESL; immigrant education; substantial disabilities; vocational programs; older adults; family and consumer services; health and safety, and workforce preparation.	Adults not enrolled in credit CCC programs
Cal Works	Federal State Formula allocation	Assists welfare recipient students and those in transition off of welfare to achieve long-term self-sufficiency through coordinated student services offered at the community colleges such as work study and job placement.	Welfare recipient students
Solar Heating and Cooling Program	Federal (Department of Energy grant)	Develop training program and a “training the trainer” program for International Brotherhood of Electrical Workers (IBEW). Provides credit-bearing certificates.	IBEW workers
Career Advancement Academies	State Foundation Competitive grants	Offers basic skills instruction that combines skills development with career orientation, leading to short-term career training linked to continuing college and career pathways in CTE industry sectors with high growth employment opportunities. Projects include advisory committees of community college districts, business and industry representatives, local Workforce Investment Boards, ROCP, Adult Education programs and labor organizations.	Youth and adults 18-30, reentry students, high school dropouts
CTE - Teacher Preparation Pipeline (CTE-TPP)	State Competitive grants	Prepare students to become secondary or community college CTE teachers in math and/or science based CTE industry sectors and career pathways.	Community college students
Community Education Programs	Self-support through fees	Fee-based community education programs that are customized to community labor market needs.	Job seekers, mid-career professionals, recent high school graduates and other community members interested in career advancement

Appendix C

Organization/Program	Funding Source and Mechanism for Community College Funding	Purpose	Target Population
Contract Education	Self-support through contracts with employers and others	Community colleges may contract with private or public entities to provide customized education and training services for special groups of individuals if costs of providing services are fully reimbursed.	Employers and new or incumbent employees
Foundation for California Community Colleges (FCCC)		Manages external grants and contracts in support of system mission.	
Early College High School	Foundation grants	Early college high schools are partnerships between public or charter secondary schools and local community colleges that allow students to earn a high school diploma and two years of college credit in five years or less at no cost. Students begin taking college courses as soon as they show they are ready. The credits earned can be applied toward completing an associate's degree, qualifying for transfer to a four-year university or earning certification in a vocation.	High school and community college students
Career Pathway Program	Foundation grants	Works with employers to provide them with a single access point to reach potential student workers. Students can view all openings in one location. The program typically employs more than 500 students each year totaling over \$4.5 million in salaries.	Community college students
Smog Check Referee Program	Contract with Department of Consumer Affairs/Bureau of Automotive Repair	Offers basic skills instruction that combines skills development with career orientation, leading to short-term career training linked to continuing college and career pathways in CTE industry sectors with high growth employment opportunities. Projects include advisory committees of community college districts, business and industry representatives, local Workforce Investment Boards, ROCP, Adult Education programs and labor organizations.	Youth and adults 18-30, reentry students, high school dropouts

Notes

- 1 President Obama was clear in calling for some postsecondary training, but the “college for all” discussion usually gets framed around bachelor’s degrees.
- 2 Symonds, W.C., Schwartz, R.B., & Ferguson, R. (2011). *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Cambridge, MA: Harvard Graduate School of Education; Carnevale, A.P., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. Washington, DC: Center on Education and the Workforce, Georgetown University.
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- 4 Jacobsen, L. & Mokher, C. (2009). *Pathways to boosting the earnings of low-income students by increasing their educational attainment*. Washington, DC: Hudson Institute Center for Employment Policy and CNA Analysis and Solutions; Bailey, T., Kienzl, G., & Marcotte, D. (2004). *The return to a sub-baccalaureate education: The effects of schooling, credentials and program of study on economic outcomes*. Washington, DC: U.S. Department of Education.
- 5 Shulock, N., Moore, C., & Offenstien, J. (2011). *The road less traveled: Realizing the potential of career technical education in the California Community Colleges*. Sacramento, CA: Institute for Higher Education Leadership & Policy.
- 6 Based on analyses of all entering students who intended to complete some kind of certificate or degree, as described in our report titled *The Road Less Traveled*. Completion rates include only those awards that are reported to the Chancellor’s Office (all associate degrees and certificates of 18 units or more). Completion rates can undercount the number of students who complete all requirements for a certificate or degree because students must apply for the actual award and some do not do so. Completion rates calculated by the Chancellor’s Office for Perkins reporting are much higher because only students who have successfully completed a substantial amount of coursework in a program are included in the calculation. Specifically, students are included in the rate only if they have successfully completed a minimum threshold of 12 or more units of related coursework (defined at the 2-digit TOP code) within the past three years, with at least one of the courses above the introductory level, or if they have actually earned a degree or certificate whether or not they meet the threshold requirements.
- 7 Per SB 1143, a Task Force produced a student success plan, which was endorsed by the Board of Governors on January 9, 2012. The plan will be presented to the Legislature in March, after which implementation, including statutory and regulatory changes, will begin.
- 8 Shortages are documented in Offenstien, J. & Shulock, N. (2009). *Technical difficulties: Meeting California’s workforce needs in science, technology, engineering and math (STEM) fields*. Sacramento, CA: Institute for Higher Education Leadership & Policy. The California Hospital Association is on record supporting the Student Success Task Force recommendations as one means to address the shortage of health care workers.
- 9 Statutory authority for the economic and workforce development program is provided in Education Code sections 88500-88551.
- 10 Some CCC students enroll in CTE courses to update or improve specific job skills, without any intent to complete a certificate or degree. Others enroll to earn industry certifications whose requirements don’t match those of a certificate program and thus do not earn a college credential. Other students intend to earn a credential but find good employment before they complete it. These are valid roles for the CTE mission of the colleges, but are not the focus of our analysis, which is on the production of career-oriented certificates and degrees.
- 11 In 1991, AB 1497 (Polanco) codified the Economic Development Program and in 1996, SB 1809 (Polanco) amended the community college mission to include “advancing economic growth and global competitiveness.”
- 12 For a concise description of the mission of EWD, see Chancellor’s Office website: <http://www.cccco.edu/ChancellorsOffice/Divisions/WorkforceandEconomicDevelopment/IndustryPartnershipPractices/tabid/379/Default.aspx>.
- 13 Chapter 1057, Statutes of 1996 (SB 1809, Polanco).
- 14 We use the terms “CTE” and “Academic Transfer” because they are the terms commonly used, but we recognize they are problematic in that many CTE programs have well-established transfer pathways and many four-year programs are just as career-oriented and technical as one- and two-year CTE programs. In addition, many individual courses carry both academic and vocational designations, demonstrating that the two terms are not mutually exclusive.
- 15 The Division and its constituent units have been renamed recently, but this report uses the long-established names since our purpose is to describe the system under which colleges have operated up until now. The division has been renamed Workforce and Economic Development, with CTE renamed Career Education Practices and EWD renamed Industry Partnership Practices.
- 16 SB 70 (Scott), enacted as Chapter 352, Statutes of 2005, sets out the programmatic elements to the initiative.
- 17 Education Code section 88500(e) identifies a set of “strategic priority areas” but states that priorities are “not necessarily limited to” this list.
- 18 California Department of Education and California Community Colleges, *2008-2012 California State Plan for Career Technical Education*, http://www.schoolsmovingup.net/cte/downloads/cteplan_122808.pdf.
- 19 California Education Code Section 55601.
- 20 The inventory we conducted of all certificate and degree programs across the community college system revealed that there are some 8,000 certificate programs and 4,500 associate degree programs across 142 “fields” as defined by the system’s four-digit Taxonomy of Program (TOP) codes.
- 21 Stephens, R. (2009). *Charting a path: An exploration of the statewide career pathway efforts in Arkansas, Kentucky, Oregon, Washington and Wisconsin*. Seattle Jobs Initiative; Hughes, K. & Karp, M. (2006). *Strengthening transitions by encouraging career pathways: A look at state policies and practices*. New York: Community College Research Center, Teachers College.

Notes

- 22 As noted earlier, these units have recently been re-named but we are describing the structures that have prevailed over recent decades and are, therefore, using the earlier names.
- 23 The second report in this four-part series will document the proliferation of program offerings, pointing to an absence of effective processes for discontinuing low-need programs.
- 24 Career Advancement Academies, funded from SB 70 and matching funds since 2007, have been expanding rapidly but still operate in fewer than one-third of colleges and have served 6200 students over five years, according to the project's website, <http://www.careerladdersproject.org/initiatives-programs/career-advancement-academies/>. There are no other major efforts to build pathways from noncredit into credit career programs or to contextualize basic skills instruction.
- 25 See http://www.lao.ca.gov/analysis_2007/education/ed_05_anl07.aspx#Career_Technical_Education.
- 26 The Chancellor's Office data system does use Unemployment Insurance data to compare annual earnings before and after credentials are earned but only in the aggregate for all students earning a credential in a given year, and not by program. See p. 20 of the accountability report at <http://www.cccco.edu/Portals/4/TRIS/research/ARCC/March%20ARCC%202011.pdf>. It documents a "jump" in wages after the award year but mentions "caveats" without further explanation. One caveat is that the metric used (total wages, not hourly wages) masks any impact of numbers of hours worked. It is possible that a substantial amount of the jump is accounted for by increased work hours when no longer a student, rather than, or in addition to, wage increases.
- 27 California Community Colleges Chancellor's Office (2011). Career technical education pathways initiative. Sacramento, CA: Author, p. 2. http://www.wested.org/online_pubs/resource1192.pdf.
- 28 *Career and Technical Education at Santa Monica College in an Economic Context*, June 2010. http://www.smc.edu/EnrollmentDevelopment/InstitutionalResearch/Documents/Reports/Career_Technical_Education/SMC_CTE_EconomicReport.v1.pdf.
- 29 See <http://www.cacareercafe.com/> and <http://californiacareers.info/careerzone.html>.



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