

Background Paper:

**Funding Career and Technical Education (CTE)
Programs at California Community Colleges**

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Discussion Category:

- 1. Workforce Data & Outcomes
- 2. Curriculum & Instructors
- 3. Structured Career Pathways & Student Support
- 4. Funding
- 5. Regional Coordination

Funding Career and Technical Education (CTE) Programs at California Community Colleges

Executive Summary

Career and Technical Education (CTE) courses often cost more to provide, when compared with non-CTE courses. This report discusses ways to revise and supplement CTE funding so as to support a more effective and efficient CTE system. The following is a brief summary of options discussed in greater detail in the report.

Options for Consideration

Consider supplementing high-cost CTE courses through a block grant or categorical fund. The Legislature would set aside a block of funds each fiscal year that would provide supplemental funding to high-cost courses and programs. One option would be to create funding tiers based on cost data for various programs. Providing this funding out of new monies would ensure that supplemental CTE funding would not reduce pre-existing CCC FTES apportionments.

Consider tiers of supplemental funding. The Task Force should develop estimates of how much supplemental funding would be necessary to provide adequate and sustainable support for CTE. As a point of reference, at current CTE FTES, each \$100 million in supplemental funds would provide an average of about \$305 per CTE FTES or \$10.17 per student credit hour. Tiered funding may be especially important for colleges who need to grow high-demand CTE programs at a faster rate than overall enrollment growth.

Begin to address data limitations. Policymakers would benefit from additional data on the ongoing costs of CTE and non-CTE courses, as well as intermittent costs, such as program startup, curriculum development, and labor market analysis. Such data will be necessary to develop credible estimates of supplemental funding needs.

Consider performance-based funding, but be aware of potential unintended consequences. If a performance component is part of the supplemental funding structure, some fraction of supplemental funding would not be guaranteed, but would only be available to programs that produce desired results, including intermediate results, such as starting or expanding programs for occupations that are in high demand and alignment of programs with the skills desired by regional employers, and/or ultimate results, such as job placement and wage increases.

Consider whether cohort-based funding is practical. Cohort-based funding would provide funding predictability for colleges and ensure the availability of course slots for students. However, it also entails a risk of some funded course slots going unfilled due to program attrition. The Task Force should consider whether businesses or Workforce Investment Boards would be willing and able to fund cohort-based slots in high-demand occupations and also the potential for making this funding contingent on colleges taking steps to minimize program attrition.

Plan for increased demand for CTE. To the extent policy innovations in CTE are successful, student demand will increase for programs that result in high job placement rates and/or substantial wage gains. Supplemental funding for high-cost CTE programs may need to be adjusted over time as the mix of CTE programs evolves, especially where high-demand programs need to grow faster than the overall rate of enrollment growth.

Consider separate funding streams for program startup, expansion, and updating. The Task Force should consider whether a supplemental funding system for CTE needs to include a separate funding stream for one-time equipment purchases and other intermittent costs of program startup, expansion, and/or updating, or whether a single funding stream should be used for both ongoing and intermittent costs.

Consider differential tuition and fees if risks to access can be mitigated. Differential per-unit tuition and/or course fees could provide additional revenue to support CTE courses. However, they could also create disincentives for students to enroll in CTE courses and could negatively impact the CCC's open-access mission. Before pursuing a differential tuition policy, the Task Force should develop estimates of the potential for additional revenue from higher tuition and fees and the potential effects of higher student costs on access to CTE programs.

Move away from grant-based funding. Much CTE-specific state funding is delivered in the form of one-time grants, requiring CTE staff to spend substantial amounts of time in grant applications and management. Moving toward an annual categorical allocation is more likely to create a reliable funding environment in which CTE has a greater chance to thrive.

Consolidating functions will improve efficiency. A number of functions, such as curriculum and professional development, labor market analysis, and employer engagement that currently occur mainly at the campus level would likely be more efficient and effective if at least partially pursued at the regional and/or state level. Funding policy can be used both to support and incentivize these efforts.

Incentivize collaboration, not competition. A major theme that emerged from interviews with CTE practitioners is that the current FTES-based funding system incentivizes campuses to act competitively, rather than in concert, because campuses are funded based on how many students they attract. The Task Force's deliberations present an opportunity not only to identify ways to provide funding for regional infrastructure, but also to structure the funding system so that colleges have an incentive to work collaboratively.

Pursue synergies with other funding streams. A number of community college funding programs, such as the Student Success and Support Program and Student Success for Basic Skills Students, provide services to all community college students, regardless of whether they are pursuing CTE or non-CTE programs. The Task Force should consider whether and how the services delivered with these funds could be leveraged in ways that reinforce the goals and incentives of the overall CTE delivery system.

Introduction

California's Community Colleges are funded based on an annually determined rate per full-time-equivalent student (FTES) combined with annual enrollment targets that must be met within their FTES allocations. However, Career and Technical Education (CTE) courses often cost more to provide, when compared with non-CTE courses, due to requirements for lower student-instructor ratios, additional support staff, and specialized facilities, equipment, and/or materials that are necessary or required for many CTE programs.

The higher cost of CTE creates a disincentive to offering CTE courses relative to non-CTE courses, even in cases where there is high demand for courses with higher costs. Furthermore, in times of budgetary stress, as was the case during the recent recession, there is a greater incentive to cut higher-cost programs.

Although many Community College CTE programs have too few spaces to meet demand, CTE's share of Community College education has been steadily shrinking. California has a large unmet need for CTE training. Middle skills jobs—those that require more than a high school diploma but less than a bachelor's degree—make up about 47% of jobs in California, yet only 38% of workers have the appropriate skills for these jobs.¹

In order for Community College CTE to fulfill its potential, CTE programs need stable and adequate funding, along with a funding structure that creates incentives for community colleges to focus CTE programs on skills with high labor-market demand and that maximize employment prospects, career advancement, and wages for CTE students.

The California Community Colleges Chancellor's Office (CCCCO) recently convened the Task Force on Workforce, Job Creation and a Strong Economy (Task Force) “with a goal to increase individual and regional economic competitiveness by providing California's workforce with relevant skills and quality credentials that match employer needs and fuel a strong economy.”² During the last few months, the Task Force has convened a series of Regional College Conversations³ around the state with community college officials and practitioners to solicit ideas on how to improve the effectiveness and efficiency of California Community College CTE.

The Task Force's efforts are part of a broader movement to reshape workforce development in California. The Governor's 2015-16 Budget Summary includes a chapter on “Investing in California's Workforce” that describes the Administration's plans to expand, coordinate, and improve the state's workforce education and training efforts.⁴

¹ America's Edge, *Can California Compete? Reducing the Skills Gap and Creating A Skilled Workforce through Linked Learning* (June 2012). For a national perspective, along with survey data on the origin and nature of the skills gap, see CareerBuilder, *The Shocking Truth About the Skills Gap* (March 2014).

² Task Force on Workforce, Job Creation and a Strong Economy, <http://doingwhatmatters.cccco.edu/StrongWorkforce.aspx>.

³ <http://doingwhatmatters.cccco.edu/StrongWorkforce/Events.aspx#townhalls>.

⁴ Edmund G. Brown, *2015-16 Governor's Budget Summary* (January 2015), p. 47.

This report discusses ways to improve CTE funding so as to support and reinforce the overall Task Force goal of a more effective and efficient CTE system and is guided by the following objectives:

- Ensuring adequate and stable funding for CTE. This includes funding the higher cost of CTE program delivery as well as costs for curriculum development and program startup and updating.
- Providing funding for regional and statewide support structures for curriculum development, labor-market alignment, professional development, and other collaborative efforts.
- Harnessing the scale of the Community College system to use funds more efficiently.
- Ensuring that financial incentives reinforce and work synergistically with CTE policy objectives, such as regional collaboration, labor market alignment, and a focus on positive outcomes for students.

Our research for this report included extended interviews with more than two-dozen community college and CTE experts and stakeholders in California and other states, review of research and policy reports on CTE finance, structure, and outcomes, analysis of budget data from the Department of Finance, the Legislative Analyst's Office, and the California Community College Chancellor's Office, and ideas proposed in the Regional Conversations.

Trend in Community College CTE and Non-CTE Enrollment

Between the 2000-01 and 2013-14 academic years, CTE's share of total community college Full-Time-Equivalent Students (FTES) declined from 31.3% to 28.2% (see Figure 1).⁵ Non-CTE FTES in 2013-14 was 16.2% higher than during 2000-01, while CTE FTES was about the same as in 2000-01. Figure 2 shows the trend in CTE and Non-CTE FTES.

In years when total FTES increases, the percentage increase in CTE tends to be lower than for non-CTE. In years when total FTES decreases, the percentage decrease in CTE tends to be greater than for non-CTE. In other words, when compared with non-CTE, in times of declining enrollment, CTE is more likely to be cut; in times of increasing enrollment, CTE is less likely to be augmented.

CTE FTES would have to grow by relatively large percentages in order to return to its 2000-01 FTES share of 31.3%.⁶ For example, if non-CTE FTES remains at its 2013-14 level of 0.84 million, CTE FTES would have to grow by 14.2% to return to a 31.3% share. If total enrollment returns to its 2009-10 peak of 1.32 million FTES (a 13% increase over 2013-14 FTES), CTE FTES would need to grow by 26.0% to reach a 31.3% share.

⁵ Based on data for statewide total FTES and Vocational Education FTES from the CCCC's Data Mart, and including both credit and non-credit FTES. When only credit FTES is included, the CTE share declined from 32.4% in 2000-01 to 29.0% in 2013-14.

⁶ This should not be construed as a judgment regarding an appropriate target for CTE FTES, but is rather an example to illustrate the scale of CTE growth that would be necessary under one hypothetical scenario.

Figure 1. CTE Share of California Community College Full-Time Equivalent Students (FTES), 1992-93 through 2013-14

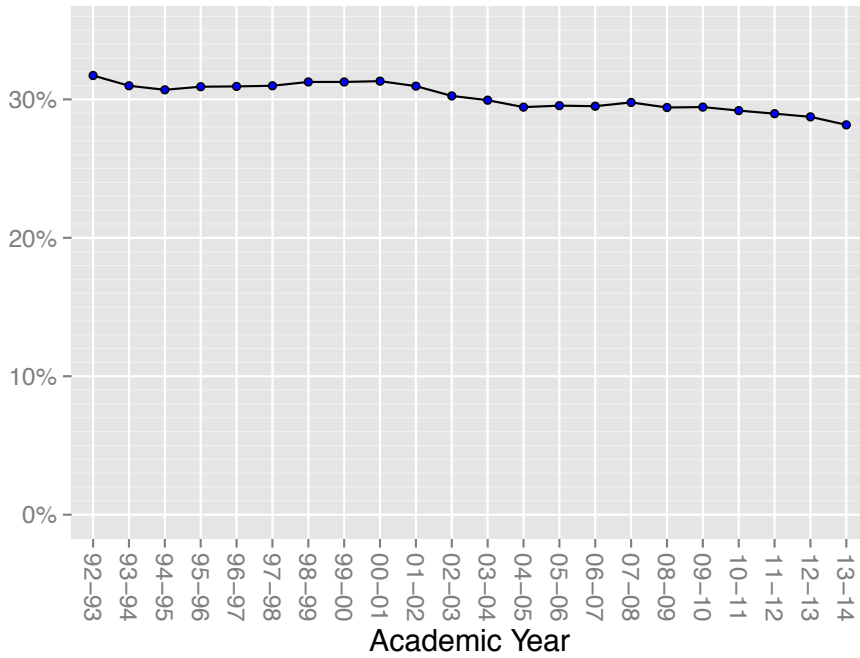
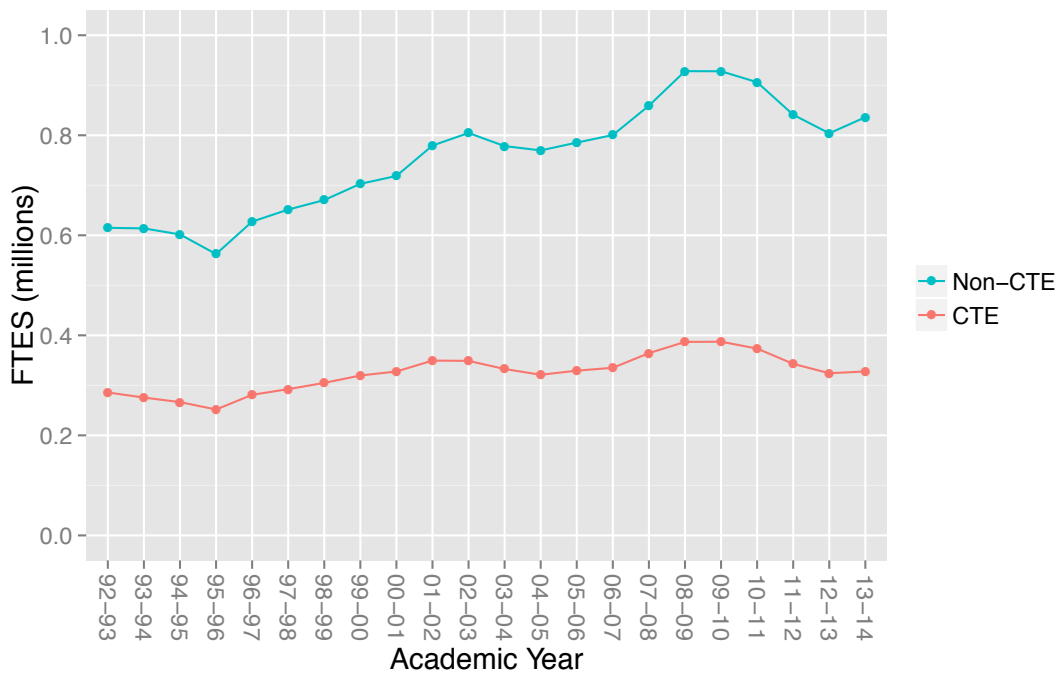


Figure 2. CTE and Non-CTE FTES, 1992-93 through 2013-14



CTE Expenditures in the Context of the CCC's Overall Budget

The CCC's budget for the 2014-15 academic year is about \$7.94 billion, including General Fund, local property taxes, lottery funds, and student fees. Funding per FTES is \$6,557 or \$219 per student credit hour.⁷ The Governor's proposed budget for 2015-16 would increase state funds to \$8.68 billion. These are substantial increases from the \$6.14 billion the CCC received in 2011-12 (\$5,400 per FTES;⁸ \$180 per student credit hour). The relatively low funding level in 2011-12 was the result of several years of recession-driven budget cuts. CCC revenues have been rising steadily since then.

Based on estimates by the Legislative Analyst's Office (LAO), California will spend a total of \$5.6 billion on workforce education and training during the 2014-15 fiscal year, about \$3.1 billion from state funds and \$2.5 billion from federal funds.⁹ These funds support workforce education and training by the CCC, California Department of Education (CDE) and local K-12 education agencies, as well as other agencies such as the Workforce Investment Boards, Department of Social Services, Employment Development Department, and Department of Rehabilitation.

Based on LAO estimates, the CCC will spend nearly \$2 billion in state funds on CTE during the 2014-15 academic year. About \$1.7 billion of this is the portion of total apportionment funding estimated to be spent on CTE. This is based on the assumption that general state apportionment spending on CTE is in proportion to CTE's share of total FTES, plus the addition of \$73 million in categorical Economic Workforce Development funds. This \$73 million includes \$50 million in one-time CTE Enhancement funds, which can be used for equipment, curriculum and professional development and other costs related to expanding and updating CTE offerings. The CCC also receives additional CTE-related funds through various categorical programs that provide one-time or ongoing funds for CCC CTE or for joint programs between the CCC and K-12 education agencies. Table 1 summarizes funding for the programs.

The data above likely underestimate expenditures for CCC CTE, because, as discussed in the next section, CTE courses generally cost more to provide when compared with non-CTE. As a result, although CTE accounts for just over 28% of total FTES, on average it entails higher expenditures per FTES than non-CTE courses.

CCC CTE also receives various federal funds, including Perkins vocational education funds in amounts that have varied from about \$52 million to \$60 million per year during the last few years. There are also a number of federal CTE-related one-time grant programs that provide varying amounts of federal funding each year. For example, between 2011-12 and 2013-14, several community colleges received a total of \$65.5 million in federal Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants.

⁷ Assuming 30 credit hours per FTES. Community College League of California, *Fast Facts 2015* (March 2015).

⁸ Community College League of California, *Fast Facts 2012* (January 2012).

⁹ Legislative Analyst's Office, *The 2015-16 Budget: Proposition 98 Education Analysis* (February 2015).

Table 1. Current and proposed state budget expenditures for categorical CTE-related programs involving the California Community Colleges

Program	Budgeted Amounts (millions)		Purpose	Notes
	2014-15	2015-16 (Proposed)		
Enhanced Non-Credit Rate Equalization	-	49.0	Program services	Funds the cost of increasing the funding rate for non-credit CTE and basic skills courses up to the same level as for credit courses
Proposition 39 Energy Efficiency	39.6	39.6		Includes funds for both energy efficiency projects at CCC and expansion of workforce training related to energy efficiency and sustainability
Nursing Grants	13.4	13.4		Supplemental funding to cover the higher cost of nursing CTE programs
Economic Workforce Development	72.9	22.9	Program development/coordination	The 2014-15 budget includes a \$50 million one-time allocation for the CTE Enhancement Fund
California Career Pathways Trust	250.0		Both program development/coordination and program services	One-time funds for grants allocated to groups of collaborating K-12 school districts, county superintendents of education, and CCCs. \$250 million was also allocated in 2013-14.
CTE Incentive Grant Program	-	250.0		First year of a planned three-year program of one-time grants for community colleges and K-12 education agencies working in partnership on development of new and expanded CTE programs
CTE Pathways Initiative	48.0	48.0		Funds for coordination of CTE pathways from middle school through community college
Apprenticeship	7.2	29.1		The proposed expansion would fund apprenticeship demonstration projects in new and emerging industries with unmet labor market demand

CTE Courses Are Generally More Expensive than Non-CTE Courses

CTE courses are generally more expensive than non-CTE courses for three reasons.

- **Higher startup costs.** CTE courses and programs often have substantial startup costs, due to the need for specialized equipment and facilities, labor-market demand studies, and other one-time costs.
- **Higher operating costs.** CTE courses are often more costly to operate, due to relatively low student-faculty ratios, equipment maintenance and replacement, replacement of consumable materials, and the need for specialized support and administrative staff.
- **Keeping up with rapid labor market evolution.** The skills needed in the labor market change relatively rapidly as new technologies are developed, new industries are created, and existing industries evolve. As a result, CTE courses, in order to stay relevant, must regularly be updated to reflect changing labor-market demands, while CTE faculty must seek out professional development in order to keep their skills up to date. This imposes greater funding demands for program updating when compared with non-CTE disciplines, such as literature, history, or biology, whose curricula change comparatively slowly over time.

National data indicate that CTE courses cost more to operate than non-CTE courses. For example, Table 2, reproduced from Shulock et al. (2013),¹⁰ shows that CTE courses can cost, on average, as much as four to five times as much as non-CTE courses.

Systematic CTE and non-CTE cost data for California do not appear to be available.¹¹ However, the California Community College Board of Trustees Task Force on Differential Funding for CTE Programs released a report in January 2013 that assessed the “differential” cost of 15 specific CTE programs at five different community colleges.¹² Riverside Community College District, using a

¹⁰ Nancy Shulock et al., *Workforce Investments: State Strategies to Preserve Higher-Cost Career Education Programs in Community and Technical Colleges* (Institute for Higher Education Leadership and Policy, August 2013). The original source for the data is National Community College Cost & Productivity Project, National Higher Education Benchmarking Institute. Costs include salary and benefits for faculty and administrative and support staff associated directly with each program. Costs do not include facilities, overhead, equipment, or administration and student support services not directly provided by the program.

¹¹ California Community Colleges do not currently participate in the National Community College Cost & Productivity Project and state and local community college employees we interviewed were not aware of CTE cost data by course or program.

¹² Jim Moreno and Andreea Serban, “Report of the CCCT Taskforce on Differential Funding for CTE Programs,” January 25, 2013. Differential costs in the study were defined as follows: “... the emphasis was on determining only those costs that are in addition to costs that any program would have. For example, all programs involve costs for faculty and staff compensation, maintenance of facilities, basic supplies and infrastructure. Such costs are not included as differential costs. Rather, differential costs are those that are caused by specific requirements for the delivery of a CTE program such as specialized equipment, required specific additional staff for the program, specialized program accreditation, requirements related to maintaining certain certifications for

similar methodology, assessed the differential costs of three of its CTE programs.¹³ Differential costs ranged from \$25 to \$662 per student credit hour across the 18 programs included in the two studies, with a median of \$173 and an average of \$216.

Based on anecdotal information from interviews, roughly 60% of community college funding (general and categorical apportionments and one-time categorical grants) is spent on instruction (i.e., faculty compensation and instructional materials and equipment). At the current funding rate of \$219 per FTES, discussed above, this amounts to about \$131 per student credit hour available for classroom instruction.¹⁴ Thus, while the differential cost studies do not provide data on total program delivery costs, the differential costs alone indicate that CTE programs often incur costs that are substantially higher than the average amount of funding per student credit hour.

Table 2. Instructional Cost per Student Credit Hour; National Averages for 2011-12

Humanities/Humanistic Studies	\$52
Biology, General	\$64
Engineering-Related Technologies	\$73
Allied Health and Medical Assisting Services	\$131
Drafting/Design Engineering Technologies/Technicians	\$163
Respiratory Care Therapy/Therapist	\$265

Source: Shulock et al. (2013)

CTE programs can also entail substantial startup costs. Programs such as nursing, machining, welding, engineering technology, culinary arts, and many others require expensive equipment and multiple units often must be purchased in order to provide enough “stations” so that each student has sufficient opportunity to gain hands-on experience. Once again, systematic data are not available, but interviewees discussed programs that cost as much as a million dollars or more in startup costs. A Los Angeles Trade Technical College PowerPoint presentation also mentions a

the faculty and staff delivering the program and other such specific requirements to the program. In addition, a differential compensation factor was included for programs that have very low student/faculty ratios, particularly for programs that have lab sections with less than 10 students per instructor as a pedagogical and training requirement.”

¹³ Riverside Community College District, *Cost of Career Technical Education Case Study Presentation* (2011).

¹⁴ Note, however, that this figure is likely an overestimate of the amount of funding available for classroom instruction, since a significant amount of CCC funding comes in the form of categorical programs or other restricted funding that is not necessarily available to support general CCC operations or instruction.

cost of \$13 million to expand a culinary program to meet student demand and \$4.5 million to start up a new automotive paint program meeting industry standards.¹⁵

Some types of non-CTE courses, such as science and engineering labs, also incur higher costs than traditional lecture courses, while some CTE courses, such as accounting, have costs similar to traditional lecture courses. Overall, however, CTE tends to be more expensive than non-CTE in terms of both operating and startup costs.

Funding Policies to Address the Higher Cost of CTE and Support Structural Reform of CTE Delivery

In this section, we discuss options for providing adequate, reliable funding for higher-cost CTE programs. The funding options below are distilled from interviews with CTE and Community College experts in California and elsewhere, the community college policy literature, CTE funding practices in other states, and the Regional College Conversations that the Task Force convened in each region of California.

We divide the funding options for CTE into two major conceptual areas: (1) supplemental funding for high-cost courses and programs, and (2) support and incentives for structural reforms and economies of scale. The former would address funding shortfalls while the latter would both improve CTE outcomes and increase efficiency so that every dollar goes further.

Providing Supplemental Funding for CTE

Major options used by other states for providing supplemental funding for high-cost courses and programs include the following:

- Performance funding—that is, making funding contingent on achieving desired outcomes
- Differential funding based on program cost
- Differential tuition based on program cost
- Differential materials and/or equipment fees for programs that employ costly equipment and/or materials

We discuss each of these below.

Performance Funding

Performance funding refers to the policy of allocating some portion of state funding based on attainment of desired outcomes. The goal of performance funding is to create additional incentives for educational institutions to better align their policies and actions with educational goals, such as student success and alignment of CTE programs with labor market demand.

Fourteen of 20 states studied by Shulock et al. (2013)¹⁶ have adopted or implemented some form of performance-based funding. All states with performance funding include completions of

¹⁵ See <http://www.slideshare.net/vadenbd/high-cost-program-presentation-presentation>.

certificates and degrees as one of the outcome measures. Several states also allocate performance funding for CTE programs that can demonstrate that they are preparing students for careers that are in high demand. In some cases this is measured by completions in fields designated as “high need.” Another approach is to provide additional funding based on job placement rates and/or wage gains from before to after participation in a CTE program. Some states also include equity outcomes in their performance funding formula in order to guard against colleges cherry-picking prospective students whom they believe are more likely to be successful.

Differential Funding

Thirteen of 20 states studied by Shulock et al. (2013) have community college funding formulas that take into account the fact that some courses and programs of study entail higher costs than general education courses. All states include direct instruction costs (mainly faculty compensation) in the funding formula, while some also include costs for equipment and facilities. In addition, some states apply a differential funding formula to base apportionments, while others apply differential funding only to new funds.

For direct instructional costs, states generally group programs into categories based on Classification of Instructional Program (CIP) codes. States that use this method typically have three to seven categories, although Texas has 26 categories and Kentucky has 52. The ratio between the highest and lowest funding rate varies from 1.7 to 2.7 times the base funding rate, except for Texas, which has a maximum ratio of 4.4.

States use various means to acquire cost data by which to assign funding ratios, including cost data from their own community colleges, data from other states, and accreditation guidelines regarding student/faculty ratios for various disciplines.

Differential Tuition

Differential tuition¹⁷ refers to charging different amounts for different programs. Eleven of 20 states studied by Shulock et al. (2013) permit differential tuition. However, not all community college systems that are authorized to charge differential tuition actually do so “no doubt out of fear that higher tuition rates might discourage students from enrolling in high-need programs.” Programs that do set differential tuition rates tend to charge higher tuition only for those high-cost programs “where student demand and job prospects are deemed sufficient to support somewhat higher student tuition” (Shulock et al., 2013). Some states that employ differential tuition have two or three tuition tiers, depending on the cost of program delivery. Others have

¹⁶ Nancy Shulock, Jodi Lewis, and Connie Tan, *Workforce Investments: State Strategies to Preserve Higher-Cost Career Education Programs in Community and Technical Colleges* (Institute for Higher Education Leadership and Policy, California State University, Sacramento, August 2013). Most of the information we present on funding policies in other states is summarized from this report.

¹⁷ In California, term “fee” is used for what is called “tuition” elsewhere. These terms refer to the cost (per unit or per semester) for enrolling in college. We use the term “tuition” here for these per-unit enrollment costs in order to differentiate it from add-on fees for materials or equipment for specific courses, as described in the next sub-section.

separate tuition rates for each program. In states with tuition tiers, the highest tier cost per credit hour can range from about 12% to 100% higher than for the lowest tier.

Differential Course Fees

In contrast to differential tuition, differential course fees can be assessed on a course-by-course basis, over and above baseline tuition, in order to cover the extra costs of programs that require specialized equipment or materials. Systematic data on differential course fees are not available, although community colleges outside California have them for some courses.

California law allows community colleges to charge fees only for durable items that will continue to be of use to students outside the classroom. This precludes community colleges from charging fees related to equipment or materials that are just for classroom use.

Special Allocations

A number of states employ special budget allocations to provide supplemental funding for CTE. Shulock et al. (2013) reports that Tennessee has an annual line-item allocation for equipment at technology centers, while New York provides grants for CTE program development. In addition, California has a categorical budget allocation, amounting to \$13.4 million for the last several fiscal years, that provides funding to supplement the relatively high costs of nursing CTE programs.

Options for Addressing CTE Funding Needs

Supplemental Funding

Begin to address data limitations. Although CTE courses generally cost more than non-CTE courses, policymakers would benefit from additional data on the cost per FTES or per student credit hour for delivering various types of CTE and non-CTE courses and programs. This includes not only instructional, support, materials, and equipment costs for the courses themselves, but also funds required for curriculum development, labor market analysis, professional development, engagement with employers, and follow-up data collection on indicators of success, such as employment and wages of students who have taken CTE courses.

Move away from grant-based funding. One of the concerns frequently raised in our interviews with community college CTE managers and in the Regional College Conversations is the negative effects of basing a large fraction of CTE categorical funding on one-time grants. Several state categorical and federal CTE funding programs are grant-based. This requires CTE staff to spend substantial fractions of their time writing and managing grants, rather than focusing on the delivery of CTE education. In addition, since the funding is not ongoing, it creates uncertainty and undermines program sustainability.

However a supplemental funding system for high-cost CTE programs is structured, the funding stream should be an ongoing budget item, reliably distributed each year based on a transparent funding formula, whether based on performance requirements, FTES, or a combination. Moving away from grants and toward an annual categorical allocation is more likely to create a reliable funding environment in which CTE has greater chance to thrive.

Consider supplementing high-cost CTE courses through a block grant or categorical fund.

Of the various methods of providing increased funding for CTE courses and programs, supplemental funding in the form of a block grant or categorical program most closely aligns with the current funding structure of the Community College system. For example, the community college budget has for several years included categorical funds to provide supplemental funding to offset the higher cost of nursing programs. The nursing categorical was created in order to address high demand for a specific career. Because the demand for various careers ebbs and flows over time, a more general and flexible approach would be to set aside a block of funds each fiscal year that would provide supplemental funding to a range of high-cost courses and programs that are in high demand at a given time.

Providing this funding out of new monies would ensure that supplemental CTE funding would not reduce pre-existing CCC FTES apportionments. In contrast, changing the base FTES funding formula to provide higher funding for CTE relative to non-CTE could generate friction between the transfer and CTE missions of the CCC if its real or perceived effect is to reduce the amount of baseline funding available for non-CTE courses.

Consider tiers of supplemental funding. Community colleges receive average funding per FTES (after accounting for non-instructional costs) that is likely higher than the typical cost of traditional lecture courses, but lower than the cost of many CTE courses. Given the lack of systematic cost data, it is not clear how large the gap is between current funding and adequate funding to meet current demand and potential growth in CTE. The fact that CTE's share of total CCC FTES has been declining at the same time that demand for many CTE programs exceeds the number of spaces available may indicate that many community colleges are not able to maintain higher cost programs within current budget allocations.

In order to address the skills gap, community colleges would need to grow high-demand CTE programs at a higher rate than overall enrollment growth. However, because many of these programs have higher-than-average costs, growing CTE faster than overall enrollment growth would increase the community colleges' average cost per FTES. Without supplemental funding for high-cost programs, such an expansion might not be possible.¹⁸

Based on improved CTE and non-CTE program cost data, scenarios for various levels of CTE FTES based on labor market demand, and current annual revenues, the Task Force should develop estimates of how much supplemental funding would be necessary to provide adequate and sustainable support for CTE going forward. Cost data could then be used to develop funding tiers, with more expensive programs receiving a larger supplemental allocation per FTES.

Although determining the appropriate amount of funding will require additional data and analysis, here are two points of reference to help guide the Task Force's discussion:

- At current CTE FTES, each \$100 million in supplemental funds would provide an average of about \$305 per CTE FTES or \$10.17 per student credit hour.

¹⁸ For the specific case of nursing program growth, see Legislative Analyst's Office, *Ensuring an Adequate Health Workforce: Improving State Nursing Programs* (May 2007).

- As a hypothetical example of supplemental funding, imagine a three-tiered system with baseline “Tier 1” funding of \$3,930 in instructional cost per FTES, or \$131 per student credit hour. Furthermore, assume that 50% of CTE courses fall into Tier 2 and receive an additional 25% in supplemental funding, or \$33 per student credit hour, while 25% of CTE courses fall into Tier 3 and receive an additional 50% in supplemental funding, or \$66 per student credit hour. At 327,708 CTE FTES per year (the 2013-14 value), that would require about \$322 million in additional funding.¹⁹

Consider performance-based funding, but be aware of potential unintended

consequences. In providing supplemental funding for CTE, an additional factor that should be considered is how to distribute the funds. Ideally, the supplemental funding structure should promote key policy goals for CTE, such as skill job placement and wage increases, so as to keep faculty, administrators, and support staff focused on CTE innovations that result in the highest return on investment for students and for the state. In addition, the Task Force may want to consider whether to include an equity component in the performance metrics so as to ensure that community colleges do not have an incentive to exclude students who are likely to need additional help, such as tutoring or basic skills courses, to succeed.

Performance funding is a controversial topic and can also entail some risks. Poorly designed incentives can result in unintended consequences. For example, using completions as an outcome measure might create pressure to lower standards in order to increase graduation rates. Nevertheless, several of the community college CTE experts we interviewed believe at least some funding should be contingent on outcomes as an incentive to gather better outcome data and to focus CTE resources on programs of greatest value in the labor market. Participants in some of the Regional College Conversations also proposed performance funding.

One reason for the focus on outcomes is that the main goals of CTE education are to increase students’ employment prospects and wages, so data on these outcomes provides the most direct and externally valid measure of whether a given CTE program has provided students with the knowledge and skills needed to be successful in the labor market.

Second, some CTE students already have jobs and attend one or a few community college CTE courses to acquire or improve specific skills, rather than to earn a certificate or degree (so-called “skills builders”). Degree or certificate completion is not necessarily relevant for these students, but wage gains are.

Third, if a given field has high labor-market demand at a given time, some students in the middle of a degree program might leave when they have sufficient skills to obtain a job, rather than staying in school to complete all the requirements for a degree or certificate. Although these students’ long-term career interests might, in some cases, be better served by completing their programs, a focus on completions would treat these students as “failures” when in fact they succeeded in achieving the outcome they desired.

¹⁹ Note that this is a rough estimate due to (1) uncertainty in the actual amount currently spent on classroom instruction per FTES and (2) the actual per-FTES cost of CTE and non-CTE courses.

If a performance component is included in the supplemental funding structure, some fraction of supplemental funding would not be guaranteed, but would only be available to programs that produce desired results. It is difficult to determine in advance what fraction of supplemental CTE funding should be contingent on program performance. If the Task Force chooses to recommend a performance-based funding policy, it will be important to ensure that the amount of funding at issue is substantial enough to focus peoples' attention on achieving program performance levels sufficient to earn the additional funding.

Performance funding could also present a potential chicken-and-egg problem. If CTE programs need more funding to be successful, how can they be expected to show improved outcomes before they receive supplemental funding? To mitigate this concern, a performance-funding program could initially provide supplemental allocations to programs that demonstrate attainment of intermediate goals, such as starting or expanding programs for occupations that are in high demand and alignment of programs with the skills desired by regional employers. Based on the results of this approach, supplemental funding after the first couple of years could continue to be based on attainment of these intermediate goals, or based on reaching ultimate goals, such as achieving minimum levels of job placements and wage increases, or both.

Consider a “soft-landing” provision. During economic downturns or periods of rapid change in a given industry sector, labor market demand for some occupations can disappear rapidly. The Task Force should consider whether it makes sense to include a “soft-landing” provision to ensure that colleges have up to a few years to scale down programs if labor market demand for a given career declines.

Consider whether cohort-based funding is practical. Cohort-based funding means guaranteeing a funding stream for a given number slots for an entire sequence of courses that makes up a given CTE program. Cohort-based funding would provide funding predictability for colleges, which could be an important consideration before embarking on a high-cost CTE program, and ensure availability of a sequenced pathway of course slots for prospective students.

Cohort-based funding is likely to be most practical for programs where students generally must complete a specific sequence of courses in order to achieve a career goal. However, it also entails a risk of funding being disbursed to colleges even if some course slots go unfilled due to program attrition.

In addition to funding in the community college budget, the Task Force should consider whether businesses or Workforce Investment Boards would be willing and able to fund cohort-based slots in high-demand occupations and also the potential for making this funding contingent on colleges taking steps to minimize program attrition. Funding by outside entities might require legal or regulatory changes, depending on how the cohort-based programs are structured.

Plan for increased demand for CTE. To the extent policy innovations in CTE are successful, student demand will increase for programs that result in high job placement rates and/or substantial wage gains. If demand for high-cost but high-value programs increases, it will be important for policymakers to ensure that these programs are financially sustainable. Thus, supplemental funding for high-cost CTE programs may need to be adjusted over time as the relative mix of CTE programs evolves. As noted earlier, the average cost per FTES will increase if meeting labor market demand requires high-cost programs to grow faster than overall

community college enrollment growth. Expanding CTE programs to meet this demand might be impeded without sufficient supplemental funding.

Consider separate funding streams for program startup, expansion, and updating.

Starting, expanding, and/or updating CTE programs can create special challenges when expensive equipment is required. The Task Force should consider whether a supplemental funding system for CTE needs to include a separate funding stream to provide funds for one-time equipment purchases and other intermittent costs of program startup, expansion, and/or updating, or whether a single block of funds should be used for both ongoing and intermittent costs. As with other aspects of CTE funding, this will require data collection and analysis to determine how much funding is needed to keep CTE programs well aligned with the skills sought by employers.

Consider differential tuition and fees if risks to access can be mitigated. Differential per-unit tuition and/or course fees could provide additional revenue to support CTE courses. However, they could also create disincentives for students to enroll in CTE courses and could negatively impact the CCC's open-access mission. About 45% of CCC students already have their tuition waived due to financial need.²⁰ Thus, a significant fraction of students either might not be able to afford CTE courses with higher tuition or materials fees, reducing access, or would need to have their tuition and fees waived, reducing the effectiveness of this policy as a funding option. Nevertheless, there may be some courses and programs where differential tuition and/or fees makes sense, especially programs for incumbent workers or programs serving students who are likely to receive significant wage gains.

The Task Force may want to consider whether it makes sense to implement differential tuition and/or fees for high-cost, high-demand programs. Changing the tuition and/or fee structure would require legislation. Although differential tuition and/or fees would create concerns about access, BOG waivers and financial aid would still be available for those students unable to afford higher tuition rates. Before pursuing a differential tuition policy, the Task Force should develop estimates of the potential for additional revenue from higher tuition and fees and the potential effects of higher student costs on access to CTE programs.

Support and Incentives for Structural Reforms and Economies of Scale

Consolidating functions will improve efficiency. A number of functions that currently occur mainly at the campus level would likely be more efficient and effective if at least partially pursued at the regional and/or state level. Funding policy can be used both to support and incentivize these efforts. The Doing What Matters initiative and the CTE Regional Consortia are working to increase regional collaboration among community colleges in a range of areas, including:

- Curriculum development and updating
- Articulation and portability of credentials and development of career ladders and regional career pathways
- Professional development for faculty

²⁰ California Community College Chancellor's Office Management Information System Data Mart at <http://datamart.cccco.edu/>. We were not able to obtain data on whether the waiver rate is different for students taking mainly CTE courses relative to those taking mainly non-CTE courses.

- Alignment of CTE programs with regional labor markets through engagement with regional businesses and labor market data analysis
- Collection of data on student employment and wage outcomes
- Regional marketing of CTE programs

Curricula are currently developed separately at each individual campus, and the curriculum approval process often takes 18 to 24 months or even longer in some cases. This system results in duplication of effort and is too slow to keep up with the pace of change in the labor market. Furthermore, it can result in idiosyncratic variations in curricula from campus to campus that make it difficult for employers to determine the value of a given program or credential. Duplication of effort is also common in the other elements of CTE activities listed above.

These are all areas in which there are likely to be regional and, in some cases, statewide economies of scale that could reduce costs, improve quality, and better align CTE courses and programs with the knowledge and skills needed in the labor market.

For example, a number of CCC practitioners in both our interviews and in the Regional College Conversations recommended developing and, when necessary, updating regional or statewide model curricula in high-need CTE areas and developing a statewide and regional system of employer engagement and labor-market analysis that would provide up-to-date information on likely demand for training in various CTE fields. The goal of this combination of “off the shelf” curricula and current labor market data would be to streamline adoption of new CTE courses and programs by allowing individual colleges to adopt model curricula for those CTE fields with high regional labor market demand within a matter of months, rather than years.

Incentivize collaboration, not competition. In addition to the specific issues listed above, a major theme that emerged from our interviews with CTE practitioners is that the current FTES-based funding system incentivizes campuses to act competitively, rather than in concert, because campuses are funded based on how many students they attract. The Task Force’s deliberations present an opportunity not only to identify ways to provide funding for regional infrastructure, but also to structure the funding system so that colleges have an incentive to work collaboratively.

These efforts at generating greater regional collaboration are in their early stages and would likely benefit from finance policies that encourage collaboration among community colleges in a given region and that provide ongoing regional and statewide funding streams for collaboration and harnessing of economies of scale.

Key considerations in designing these funding structures should include (1) developing realistic estimates of the funding needed for each of the collaborative activities in each region, (2) making funding contingent on achieving desired outcomes such as ongoing regional labor-market alignment of CTE programs, and skill mastery, job placement, and wage increases for students, and (3) incentives and requirements for ongoing reporting on expenditures and outcomes regionally and at each individual campus so that the fiscal and economic benefits of CTE reorganization and regional collaboration can be assessed and course corrections can be implemented where necessary.

It is not yet clear how much funding would be necessary or how it should be delivered. In order to make such a determination, the Task Force will need to consider what existing activities, such as

curriculum development, can be moved to regional levels, and what new activities would be necessary to develop a mature regional infrastructure. In addition, the Task Force should consider how much colleges can or should contribute to these efforts out of existing funds (some of which would hopefully be freed up by movement of various CTE activities from the campus to the regional level) and how much additional funding would be needed from new sources.

Pursue synergies with other funding streams. A number of community college funding programs provide services to all community college students, regardless of whether they are pursuing CTE or non-CTE programs. For example, the 2014-15 Budget includes \$199 million for the Student Success and Support Program (SSSP) and \$20 million for Student Success for Basic Skills Students. The proposed 2015-16 Budget would increase the SSSP to \$299 million. As the Task Force develops recommendations for restructuring CTE, it should consider whether and how the programs and services delivered with these funds could be leveraged in ways that reinforce the goals and incentives of the overall CTE delivery system.